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Legislative Assembly
Province of British Columbia

AUDITOR GENERAL

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The Honourable Melville B. Couvelier
Minister of Finance and Corporate Relations
Province of British Columbia

Sir:

I have the honour to transmit herewith my Annual Report to the Legislative Assembly, to be laid before the Assembly in accordance with the provisions of Section 10 of the Auditor General Act, R.S.B.C. 1979, chapter 24.

George L. Morfitt, F.C.A.
Auditor General

Victoria, British Columbia
12 April 1988

Annual Report of the Auditor General

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Auditor General's Overview

Auditor General's Overview

I am pleased to present to the Legislative Asssembly my 1988 Annual Report. This Report is issued pursuant to section 8 of the *Auditor General Act* and includes comment on matters relating to the work of my Office which I consider should be brought to the attention of the Legislature.

This is the tenth Annual Report issued since the establishment in 1977 of the Office of Auditor General for the Province of British Columbia. It is the first such Report issued since my appointment as Auditor General earlier this year. While many of the observations contained in this Report arise from audits and studies begun under the direction of Mr. Robert J. Hayward, C.A., former Acting Auditor General, the conclusions and recommendations reported herein are appropriately my responsibility.

I wish to thank Mr. Hayward for the diligence and application with which he so capably conducted the work of the Office since the retirement on 31 October 1986 of our first Auditor General, Mrs. Erma Morrison, F.C.A. I have appreciated his thorough professionalism and his continuing assistance to me as Deputy Auditor General.

I also wish to pay tribute to Mrs. Morrison for her outstanding service over nine years as Auditor General of British Columbia. Her legacy is the establishment of an Office which is a recognized leader in the field of legislative auditing. On behalf of the citizens of British Columbia, I offer my thanks and appreciation for her many years of dedication and commitment to improving Government accountability.

Role and Responsibility

The legislated duties and responsibilities of the Auditor General are as set out in the *Auditor General Act*. They include examination of, and reporting on, the financial statements of Government as well as the assessment of administrative effectiveness and efficiency in respect of Government programs.

Included in our 1987 Annual Report was a Mission Statement for the Office of the Auditor General. Its purpose was to serve as a point of reference for those who have expectations of the Office and for those within the Office who are responsible for meeting those expectations.

During this past year I have further reviewed with my staff the role of the Office in enhancing government accountability. As a consequence, I have included, for the interest of readers of this Report, a restatement of our Office Mission with accompanying comment thereon.

Government Financial Statements

By reports dated 31 August 1987 the then Acting Auditor General expressed unqualified opinions on each of the three separate sets of Government financial statements for the fiscal year ended 31 March 1987. These statements present the financial position and, where

applicable, the related operating results and changes in financial position of the Government and of trust funds administered by the Government. The Auditor General's Report form part of the published Public Accounts of the Province.

As the Government's 1987 financial statements, with audit opinions attached, have been separately published and circulated some months ago, they are not reproduced within this Annual Report.

Matters of note arising from our audit of the Government accounts are set forth on pages 15 to 34 of this Report. Included are those findings and recommendations, arising from our audit of financial statements for fiscal years prior to 1987, which have yet to be resolved. While these matters do not directly affect our audit opinions, they do represent outstanding issues relating to the improvement of Government processes and reporting.

Financial Controls and Legislative Compliance

We have this year undertaken several studies designed to review and evaluate internal control systems within various of the government ministries. These studies have provided useful information and recommendations which should aid the future enhancement of government control processes. They are described on pages 35 to 69.

Regard for Economy, Efficiency and Public Accountability

Over the past year, my Office has conducted several broad-scope or comprehensive audits of selected Government programs. These audits serve to evaluate Government operations to determine for the Legislature whether or not such operations are being carried on with due regard for economy, efficiency and accountability.

Comprehensive audits were performed in the Ministries of Education and of Energy, Mines and Petroleum Resources and are reported upon on pages 71 to 172.

I have announced my intention to conduct, during the coming year, comprehensive audits of the Government's restructuring (privatization) program and of the Estimates process. Although it will be difficult to find the staff resources needed to carry out this work, I consider it in the public interest to attend to these audit programs at the earliest opportunity.

The Coquihalla Highway Project and Inquiry

In December 1987, Mr. Douglas L. MacKay issued his Commissioner's report of inquiry into the Coquihalla and related highway projects. While my Office was not directly involved with the Inquiry, we have thoroughly reviewed and considered the valuable conclusions and recommendations contained in the Inquiry report.

The Commission findings are consistent with those described in several past Annual Reports of the Auditor General. Certainly, the provision by government of accountability information, with which legislators are able to make informed judgements, requires improvement.

Discussion of the issues surrounding the Coquihalla highway project and the Inquiry, including my release on 7 March 1988 of a Special Report relating thereto, is set forth on pages 173 to 183 following.

It should be noted that, during the coming year, my Office intends to conduct a detailed examination of the various means by which the Legislative Assembly controls government spending. Further, it is my intention to conduct a comprehensive audit of the Ministry of Transportation and Highways at the earliest appropriate time.

Public Bodies

It will be noted from this report that the Auditor General is the auditor of a number of Crown corporations but not the auditor for many others. The *Auditor General Act* does not require that my Office be the auditor of record for all public bodies within the province.

It is, however, my responsibility to report annually to the Legislative Assembly on the financial statements of the Government and, in the process of doing so, to review and consider the results of the audits of all of the public bodies, the accounts of which are included in the Government's annual consolidated financial statements.

In this and prior Annual Reports of the Auditor General, questions have been raised as to the accountability of public bodies to the Legislature, and the audit regime that applies to these public bodies. Although the full subject of accountability is a complex one requiring extensive research and deliberation, I believe the matter of the audit regime that applies to public bodies is one which can and should soon be resolved.

Accordingly, I have commenced a thorough review of the process of accountability to the Legislature of public bodies, with particular concentration on matters relating to financial reporting and audit. I anticipate discussing the results of this review during the coming year with the Public Accounts Committee of the Legislative Assembly.

* * *

I wish to thank the staff and officials of the ministries and public bodies audited by my Office for their cooperation and assistance. We were provided with all of the information and explanations which we required in the conduct of our audits. I also wish to express my appreciation to the staff of the Office of the Auditor General for their unfailing dedication and application to the successful achievement of the Office's professional responsibilities.

Victoria, British Columbia
29 March 1988

George L. Morfitt, F.C.A.
Auditor General

Mission Statement

Mission Statement

1.1 The formal mandate of the Auditor General has been prescribed by the Legislative Assembly in the *Auditor General Act*. Relevant sections of the Act are contained in Appendix I to this Report.

1.2 Based on the requirements of the Act, and reflecting the concepts and practices that have evolved over time, we have developed a Mission Statement to concisely describe the role of the Auditor General, and the means employed to carry out this role.

> **Mission Statement**
>
> The Auditor General serves the citizens of the Province by providing independent opinions and evaluations on the financial and administrative management of the Government and its related entities in the public sector. As well, he promotes improvement in public sector accountability.
>
> To fulfill his responsibilities, the Auditor General has established a professional office committed to the principles of objectivity, integrity and service to the public.

1.3 While this statement is purposely brief, amplification of its various aspects will help the reader better understand its message.

1.4 The phrase, *". . . serves the citizens of the Province . . ."*, denotes the concept of public service, and recognizes the breadth of the audience interested in the Auditor General's work, including Members of the Legislative Assembly, the Government and its administration, the taxpayer, and others seeking information about the financial and administrative affairs of the Government.

1.5 The statement continues, *". . . by providing independent . . ."*. This reflects the fact that the Auditor General is an officer of the Legislature. His independence from the Government of the day and the Public Service is essential to the effective and unbiased work of the Office.

1.6 The phrase, *". . . opinions and evaluations on the financial and administrative management of the Government . . ."*, describes the major responsibility of the Office of the Auditor General. The *Auditor General Act* requires the Auditor General to examine the accounts and records of the Government, and to express his opinion on the Government's annual financial statements. In this respect the Auditor General's role is like that of accounting firms who audit the books of private

sector companies. Following the collection and spending of public funds, the Auditor General examines the Government's financial transactions and reports his findings to the Legislative Assembly. Like private sector auditors, he expresses his opinion on the financial information presented to him by the Government — the traditional "attest" audit function.

1.7 The *Act* also calls on the Auditor General to comment in an annual report to the Legislative Assembly on any matter arising from his work that he considers to be of interest to the Assembly. This may deal with such matters as the improper use of public funds, failure to comply with legislative and related authorities, expenditures not authorized by the Legislature, and other irregularities. It may also deal with his evaluations as to whether tax dollars have been economically and efficiently spent for the purposes intended.

1.8 The Statement continues, "*. . . and its related entities in the public sector.*" This refers to the Auditor General's role with respect to provincial Crown corporations and other public bodies. For those public bodies of which he is the appointed auditor, the Auditor General's responsibilities roughly parallel those undertaken in the audit of the Government's accounts. For those public bodies audited by others, the Auditor General has an oversight role which responds to the needs of the Legislative Assembly.

1.9 The next sentence states, "*As well, he promotes improvement in public sector accountability.*" It refers to the Auditor General's overall concern with disclosure and accountability throughout the public sector. In this regard, whether through his Annual Report, his dealings with the Public Accounts Committee of the Legislature, or his direct contact with public officials and administrators, the Auditor General actively furthers the concept of accountability.

1.10 The final phrase of the Mission Statement reads, "*. . . a professional office committed to the principles of objectivity, integrity and service to the public.*" The concept of professionalism emphasized here implies adherence to a set of standards which are professionally recognized. Since its inception, the Office of the Auditor General has functioned as a practicing office as defined by the Institute of Chartered Accountants of British Columbia, and has met all the requirements of that Institute associated with this status. Staff members of the Office are required to have either a professional accounting designation or special qualifications in other disciplines, or be pursuing studies toward a professional designation.

* * *

1.11 Several aspects of our Mission Statement have come under discussion and scrutiny during the past year.

1.12 At a meeting of the Public Accounts Committee in July 1987, the then Acting Auditor General made a statement dealing with two important issues: the accountability of public bodies to the Legislature and how audits serve to enhance this accountability, and the independence of the Office of the Auditor General.

1.13 With respect to the public body accountability and audit issue, the following questions were raised:

- Is the audit regime that encompasses Crown corporations meeting the needs of the Legislative Assembly?
- How is what will be audited determined for these audits, and by whom?
- How are the results of these audits reported, and by whom?

1.14 The Acting Auditor General asked the Committee to endorse his continuing study of these matters, and suggested further discussions with the Chairman and Deputy Chairman of the Committee to elicit their views. After a brief debate, the Committee decided to table the matter.

1.15 With respect to the independence issue, the Acting Auditor General pointed out in his statement to the Committee that the Government had budgeted, for the 1988 fiscal year, an arbitrary reduction of five positions in the allowable staffing of the Office of the Auditor General, with a corresponding reduction in its dollar budget. This reduction was made despite the fact that the requested staffing level had been recommended just two years previously by the Public Accounts Committee after a thorough and careful analysis of the audit work conducted by the Office. This gave rise to the question of whether the Office of the Auditor General could, over time, maintain its independence when the Government was able to countermand a previous staffing authorization.

1.16 The Acting Auditor General asked the Committee to endorse a proposal that resources allocated for the Office of the Auditor General be established by a Board or Committee of the Legislative Assembly rather than by the Government. After a brief discussion, this issue was also tabled by the Public Accounts Committee.

1.17 Both of these issues were again discussed briefly by the Committee in November 1987, at which time it was decided to defer discussion on the proposals until the first meeting of the Committee subsequent to the appointment of the new Auditor General.

1.18 With respect to the first issue, the Office is in the process of developing a position paper for discussion at a future date. On the second issue, the Government's budgeting procedures with respect to this Office remain unchanged.

Audits of the Government

Audit of the Government's Financial Statements

Audit of the Government's Financial Statements

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Reports and Comments on the Financial Statements

2.1 Each year the Auditor General and his audit staff conduct an examination of government accounts and records in order to provide a report on the annual financial statements of the Government. These audit functions are required by sections 6 and 7 of the *Auditor General Act*.

2.2 The purpose of this audit assessment and attestation is to provide credibility as to the financial representations contained in the Government's annual financial statements, for the benefit of those who have an interest in, or a need for, reliable financial information, including Members of the Legislative Assembly, the general public, the media and investment rating firms.

2.3 Because of the Government's size, and the nature, scope and complexity of the many programs it administers, government accounts and records exist in two distinct, yet interrelated, levels of financial systems:

- central financial systems of government (e.g., the central accounts system, the interactive estimates system and the payroll system) that directly relate to the specific responsibilities of the Treasury Board, the Minister of Finance and Corporate Relations, and the Comptroller General; and
- ministry financial systems which directly relate to the responsibilities of individual ministries under the *Financial Administration Act* and the other statutes for which they are responsible.

2.4 Examination of the Government's accounts and records therefore involves annual visits to central agencies and to all ministries, where we verify representative samples of monetary transactions and account balances. Our audit examination is generally conducted throughout the Government's fiscal year, with the audit work being substantially completed by the end of August following the fiscal year-end.

2.5 To determine what and how much to audit, consideration is given to several factors including dollar values, risks involved, relative materiality of amounts, desired confidence levels and professional judgement. This auditing is referred to as financial statement attest auditing because the ultimate objective is to enable the expression of a profession opinion on the resultant government financial statements. It is carried out in accordance with generally accepted auditing standards as prescribed by the Canadian Institute of Chartered Accountants.

2.6 The Government produces three separate and distinct sets of official financial statements each year. They are presented in the first three sections of Volume I of the Public Accounts as follows:

- Section A — Combined Financial Statements — The accounts included in these statements are those of the General Fund, which includes the main operating accounts of the Government, and Special Funds, which include

earmarked revenues and funds set aside from the General Fund by the Legislative Assembly for specific purposes. Together these Funds are known as the Consolidated Revenue Fund.

- Section B — Consolidated Financial Statements — These statements aggregate the Combined Financial Statements and those of certain Crown corporations: namely, those Crown corporations which exist to service the Government ("service" corporations) and those Crown corporations which conduct government activities and complement government programs ("provincial" corporations). Crown corporations which are similar to commercial enterprises and are run on commercial lines (termed "transportation" companies and "commercial" enterprises) are not consolidated; the Government's investment in those enterprises is simply adjusted to reflect the underlying equity in them without adjusting the financial statements of such enterprises to conform with the Government's accounting policies.

- Section C — Trust Funds Financial Statements — Trust Funds, as defined in accordance with the *Financial Administration Act*, are comprised of monies held in trust by the Government or a public officer and also pension funds, sinking funds maintained by the Government, money received for another person and money paid to the Government as a deposit to ensure the doing of any act or thing. The Government has no power of appropriation over these funds.

2.7 It therefore follows that the Auditor General issues an "Auditor General's Report" relative to each of these sets of financial statements. These Reports form part of the Public Accounts and, accordingly, for the 1987 fiscal year financial statements of the Government, they may be found on pages A3, B3 and C3 of the 1986-87 Public Accounts which were tabled in the Legislative Assembly and made available to the public in December 1987. Copies of these three Reports appear in Appendix II to this Report.

2.8 The Auditor General's opinions on the Government's 1987 financial statements were expressed without reservation. There are two key conditions for arriving at an opinion as to whether the Government's financial statements are presented fairly. These are set out in section 7 of the *Auditor General Act*. One is whether the statements are presented in accordance with the Government's stated accounting policies, which are set out in Note 1 appended to the statements. This note tells the financial statement reader what comprises the reporting entity and how the financial amounts are combined for purposes of statement presentation. It also gives a general description of the basis of the Government's accounting, and it states the specific accounting policies of the Government. The other condition is whether the statements are portrayed on a basis consistent with the form of presentation used for the statements of the preceding fiscal year so that revenues, expenditures and balances can be readily compared from one year to the next. The Government's 1987 financial statements satisfactorily met these two conditions in all material respects.

2.9 Financial statement attest audits do not usually include studies specifically designed to determine if internal control is adequate for management's purposes, or to identify and disclose defalcations or other irregularities. These types of internal control and other specialized audits have been carried out by our Office separately from the financial statement audits. However, in addition to the reports on the Government's financial statements, the Auditor General's examination of government accounts and records often results in matters being disclosed which are considered worthy of being brought to the attention of ministry officials. These issues are discussed with ministry staff and "management letters" are issued to the deputy ministers about these topical findings. The more important of these matters, considered to justify the attention of the Legislative Assembly, are included in our Annual Reports to the Assembly.

Comments on the Government's Financial Reporting

2.10 In December 1987 the Public Accounts for the fiscal year ended March 31, 1987 were tabled in the Legislative Assembly and thereby made available to the public. This is the earliest presentation date since the establishment of the Office of the Auditor General in 1977. We support this improved timing for making public the Government's official financial information. Historical financial information is enhanced when it is published on a timely basis. We would therefore encourage even earlier publication in future. Our audits are planned to accommodate timely financial reporting.

2.11 The 1987 Public Accounts are comprised of three Volumes. Volume I contains the three sets of official, audited government financial statements and a section of unaudited supplementary financial schedules. Volume II provides details of government payments for Legislative indemnities, public service salaries and wages, travel expenses, grants paid and payments to suppliers of goods and services. Volume III contains the audited financial statements of Crown corporations, agencies and pension funds administered by the Government.

2.12 As it did for the 1986 fiscal year, the Government also published a financial digest along with its Public Accounts. The digest is intended to provide a summary of the financial information contained in the Public Accounts. It is a useful addition to the financial accountability information provided by the Government. The 1985 Annual Report of the Auditor General suggested such a form of financial reporting, with tables, graphs and appropriate narratives.

2.13 During the past three years, the Office of the Auditor General has been utilizing and enhancing an in-house microcomputer system to convert centrally recorded government accounting data, maintained in computer mainframe files, to a more detailed financial statement format that is needed by the Office's audit teams. In 1987, accounting officials from the Office of the Comptroller General explored with our staff the possibility of their using this system to assist in producing the Government's monthly, quarterly, annual and other financial reports. Discussions are ongoing in this regard.

2.14 These cooperative developments and arrangements are a good demonstration of how accounting and auditing offices can and often do work together to improve efficiency and the availability of useful financial data.

Government Financial Statement Standards

2.15 The annual financial statements of the Government of the Province of British Columbia have, in recent years, been considered among the best for senior levels of government in Canada. This has been so, in spite of the fact that there had not been authoritative standards for governmental financial statement presentation in Canada until late 1986.

2.16 In November 1986, the Canadian Institute of Chartered Accountants' Public Sector Accounting and Auditing Committee (PSAAC) issued Public Sector Accounting Statement 3 entitled "General Standards of Financial Statement Presentation for Governments".

2.17 This Statement's general reporting principles are intended to ensure government financial statements in Canada communicate relevant, reliable, clearly presented, timely and consistent information to users. It contains 35 recommendations, 22 of which we believe are already being followed in the preparation of the Government's financial statements.

2.18 We acknowledge that it will take time for the Government to implement all the recommendations in PSAAC's Accounting Statement 3, as new policies, systems and procedures will have to be developed. We also understand that certain subjects, such as acquired physical assets and pension obligations, are still being actively studied by PSAAC and will be addressed further in future pronouncements.

2.19 Analysis to date by our Office indicates that the following recommendations concerning general standards of financial statement presentation for governments in Canada require further attention by the Government.

	RECOMMENDATIONS	STATUS
	PSAAC recommendations not being followed:	
2.20	Financial statements should disclose information to describe a government's acquired physical assets on hand and available for use by the government at the end of the accounting period.	Not being followed. The Government is awaiting further development of guidelines by PSAAC before proceeding with any review of this item.
2.21	Financial statements should disclose the gross amounts of expenditures.	Not being followed. Currently the Government bases its reporting on the criteria established by the Estimates, which do not call for disclosure of all amounts on a gross basis.
2.22	Financial statements should disclose the gross amounts of revenues.	Not being followed. See preceding comment.

	RECOMMENDATIONS	STATUS
2.23	The statement of revenues and expenditures should report changes in valuation allowances in the accounting period.	Not being followed. This item is under review.
	PSAAC recommendations being partially followed:	
2.24	The financial statements of a government should be clearly identified and should include or be accompanied by an acknowledgement of the government's responsibility for their preparation.	Partial. Although signed approval of the financial statements is evidenced on the balance sheets, there is not a statement or acknowledgement of the Government's responsibility for their preparation.
2.25	Financial statements should present a comparison of current period amounts with those of the prior period(s).	Partial. There are no comparative figures for the Statements of Combined Revenue by Source or Comparison of Estimated Appropriations to Actual Expenditures.
2.26	Financial statements should be issued on a timely basis.	Partial. Tabling in the Legislative Assembly has usually been 9 to 12 months after the fiscal year-end.
2.27	The statement of financial position should report a government's liabilities at the end of the accounting period segregated by main classifications, such as: accounts payable and accrued liabilities; employee pension obligations; borrowings; and loans and advances from other governments.	Partial. Employee pension obligations have not to date been included in the Government's reported liabilities, nor has the basis for their calculation been presented.
2.28	Financial statements should disclose adequate information about the nature and terms of a government's liabilities.	Partial. See preceding comment.
2.29	Financial statements should disclose adequate information about the nature and terms of a government's financial assets together with any valuation allowances.	Partial. Terms of repayment, description of repayment dates, etc. are not shown.

	RECOMMENDATIONS	STATUS
2.30	Valuation allowances should be used to reflect financial assets at their net recoverable or other appropriate value.	Partial. PSAAC's intentions regarding "allowances for amounts recoverable only through future appropriations" have not been clarified to date.
2.31	Financial statements should disclose information to describe a government's material financial commitments at the end of the accounting period.	Partial. There is a need to define material financial commitments and show estimated total costs for long term projects.
2.32	The statement of changes in financial position should classify cash flows by operating, investing and financing activities.	Partial. This information should show investments made and realized and debt financing issued and repaid during the period.

2.33 We recommend that steps be taken towards adopting those PSAAC recommendations regarding general standards of financial statement presentation for governments that have not yet been fully implemented.

2.34 As noted previously, we consider that 22 of the 35 PSAAC recommendations are already being followed. These are detailed hereunder.

- Notes and schedules that are integral to the financial statements should be clearly identified.
- Financial statements should present any information required for the fair presentation of a government's financial condition and results of operations.
- Financial statements should be presented in such form and use such terminology and classification of items that significant information is readily understandable.
- The bases for determining the reported amounts of assets and liabilities should be applied consistently and, where the bases are not self-evident, they should be disclosed.
- Where the financial statements are subject to an independent audit, the auditor's report should be appended to the statements. Unaudited financial statements should be clearly identified as such.
- Financial statements should present the substance of transactions and events.
- Notes and supporting schedules in financial statements should not be used as a substitute for proper accounting treatment.

- Financial statements should include a statement of financial position, a statement of revenues and expenditures and a statement of changes in financial position.
- The statement of financial position should account for the difference between a government's liabilities and financial assets at the end of the accounting period.
- The statement of financial position should report a government's financial assets at the end of the accounting period segregated by main classification, such as: cash and temporary investments; revenues receivable; inventories for resale; loans and advances to other governments; other loans and advances; and investments.
- Financial statements should disclose information to describe a government's material contingencies at the end of the accounting period.
- The statement of revenues and expenditures should account for the difference between a government's revenues and expenditures of the accounting period adjusted for changes in valuation allowances in the accounting period.
- Expenditures should be accounted for in the period the goods and services are acquired and a liability is incurred, or transfer payments are due.
- The statement of revenues and expenditures should report a government's expenditures of the accounting period by function or major program.
- Financial statements should disclose a government's expenditures of the accounting period by object of expenditure.
- Revenues should be accounted for in the period in which the transactions or events occurred that gave rise to the revenues. Items not practicably measurable until cash is received would be accounted for at that time.
- The statement of revenues and expenditures should report a government's revenues of the accounting period segregated by significant types of revenues from taxes, non-tax sources and transfers from other governments.
- The statement of changes in financial position should report how a government financed its activities in the period and how it met its cash requirements, including: the changes in a government's cash and cash equivalents during the accounting period; and a government's total cash requirements during the accounting period.
- The statement of changes in financial position should report significant non-cash items.
- Financial statements should present a comparison of the actual results with those originally forecast by the fiscal plan.
- Planned results should be presented on a basis consistent with that used for actual results.
- Financial statements should present information to show where a government has exceeded its borrowing, investing or expenditure authority limits.

Retroactive Legislation

2.35 Government financial statements report the financial condition and results of operations for a fiscal year. They serve as a means by which a government provides an accounting of its administration of public financial affairs and resources.

2.36 Section 8 (2) (c) of the *Financial Administration Act* states that ". . . financial statements of the government for each fiscal year shall be transmitted by the Comptroller General to the Treasury Board and the Auditor General by September 30 next after the end of the fiscal year". Accordingly, the Government's financial statements must be finalized within six months of its fiscal year-end. Similarly, section 2 of the *Financial Information Act* requires most Crown corporations to make available to the public their annual financial statements within six months after the end of their respective fiscal years.

2.37 The Government introduced legislation on 10 July 1987 to restructure two of its Crown corporations, British Columbia Development Corporation and British Columbia Place Ltd., and combine them into one corporation, British Columbia Enterprise Corporation. This legislation was brought into force on 20 August 1987 and made retroactive to 31 March 1987.

2.38 The legislation was thus made retroactive to the Government's and the corporations' preceding fiscal years. In addition, the legislation made provision that, up to 31 December 1987, valuations of property, assets, indebtedness and rights transferred between the entities could be adjusted retroactively to 31 March 1987. One such transaction did not receive the required Order-in-Council approval until 25 November 1987. As a consequence, final release of the Government's 1987 financial statements and the Auditor General's Reports were held up until after this date. Nevertheless, the statements were published in the Public Accounts in mid-December 1987, before the 31 December 1987 expiration date set in the legislation for making retroactive adjustments.

2.39 This particular legislation (*British Columbia Enterprise Corporation Financial Restructuring Act* and the *Miscellaneous Statutes Amendment Act (No. 3), 1987*) affected the 1987 financial results of the Government as reported in its Combined Financial Statements by increasing the deficit for the year by $142 million, increasing public debt issued for government purposes by $609 million, and increasing investments in and advances due from Crown corporations and agencies by $467 million.

2.40 We do not question the results of this particular legislation. However, the use of retroactive legislation, particularly when it affects a preceding fiscal year, raises the question as to whether such legislation may be similarly utilized in future to retroactively change financial operating results or account balances. This, of course, has the potential of creating uncertainty with respect to amounts portrayed

in Crown corporation financial statements and in the Government's own financial statements, all of which are statutorily required to be finalized within six months after the end of their respective fiscal years.

2.41 It is therefore recommended that the use of retroactive financial legislation be avoided in future.

Status of Findings and Recommendations About Government Financial Statement Audit Matters Contained in Previous Annual Reports of the Auditor General

2.42 The following points were reported in our previous Annual Reports, but were not resolved at the time our last Report was issued

Report	Paragraph	Subject	Status as at Date of Preparation of this Annual Report
Financial Statement Presentation			
1986	1.30	Recommendation that the Trust Funds Financial Statements include only those assets being held in trust for third parties and over which the Government does not have any power of appropriation.	We continue to believe that the Government's interpretation of the *Financial Administration Act* results in inappropriate disclosure of the Government's own sinking funds in the Trust Funds Financial Statements.
1986	1.36	Recommendation that the trust funds of the Public Trustee and Official Administrators, the Crop Insurance Fund, and the Land Registry Assurance Fund be accounted for and reported as actively managed trust funds.	No change. Although the Government's response to our 1987 Annual Report states that the present classification of these trust funds is considered to be appropriate, we continue to support our original recommendation.
Government Accounting Policies			
1985 1986	3.15 2.10	Recommendation that the Government amend its accounting policy to ensure that cash receipts which arise from transactions of a similar nature and substance are recorded consistently in the accounts. The Estimates should then be developed in accordance with this policy.	No change. The Government's response to our 1987 Annual Report stated that a review of the policy for cash receipts is being undertaken with revision expected in the near future, and that the 1989 Estimates will reflect the new policy.

Report	Paragraph	Subject	Status as at Date of Preparation of this Annual Report

Financial Controls, By Ministry Responsible

MINISTRY OF EDUCATION

1987	2.31	Comment that the Ministry transferred expenditures from one vote to another vote without obtaining legislative approval.	Proper procedures were followed in the current year.

MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

1982	3.16	Recommendation that, if the centralized leave management system is to be relied upon, steps be taken to ensure that the information emanating from the system is accurate and reliable, and that unnecessary manual systems in ministries, which duplicate the central system, be eliminated.	No change. A new leave management system has yet to be implemented in government ministries.

MINISTRY OF ENVIRONMENT AND PARKS

1987	2.30	Recommendation that the Ministry institute procedures to ensure better verification of water usage fees.	The Ministry has accepted our recommendation, and will have the users' auditors provide an audit certificate confirming capacity and actual power output.

MINISTRY OF FINANCE AND CORPORATE RELATIONS

1985	4.10	Suggestion that, while ministries are responsible for obtaining required approvals for reallocation of funds, monitoring of such transactions is necessary to ensure that Treasury Board rules are being observed.	Still a concern. Although the Government's response to our 1987 Annual Report stated that procedures were being developed for monitoring reallocation of budgeted funds on a government-wide basis, some unauthorized reallocations of funds occurred in the 1987 fiscal year.

Report	Paragraph	Subject	Status as at Date of Preparation of this Annual Report
1985 1986	4.17 3.54	Recommendation that all trust monies administered by the Government, and held through and in the Government's main bank account, be segregated from the assets of the Government.	No change. However, we agree with the Government's assertion that the beneficiaries of the trusts suffer no significant risk of loss through the present treatment.
1986	3.9	Recommendation that a comprehensive review be conducted of all statutory expenditure authorizations and all special accounts, to determine the extent to which their spending provisions could be alternatively accommodated through the *Financial Administration Act* and thus be subject to annual review and approval by the Legislative Assembly. Recommendation that, if such authorities or accounts are deemed necessary, their need and use be subject to periodic review.	No change. The Government's response to our 1987 Annual Report dealt only with special funds and accounts. Our 1986 Annual Report point was not at all concerned with special funds, and referred to special accounts as a secondary, but related, area of concern. We therefore continue to recommend that all statutory expenditure authorizations, and special accounts, be subjected to a comprehensive review to assess their ongoing need and utilization.
1986	3.16	Recommendation that section 20 (3) of the *Financial Administration Act*, which deals with items that are credits or recoveries, be studied to assess its interpretation and implications. Consideration should also be given to amending section 20 (3) to require the actual receipt, or reasonable assurance thereof, of estimated credits or recoveries before the equivalent spending is allowed.	No change.

Report	Paragraph	Subject	Status as at Date of Preparation of this Annual Report
1986	3.25	Recommendation that the Orders in Council (OICs) which authorize borrowing contain and clearly identify the maximum face value of the securities to be issued.	In July 1987 the *Financial Administration Act* was amended to authorize the issuance of debt at above or below par. We understand that future OICs will clarify whether they refer to the face value or the proceeds of an issue. We feel that OIC 787, which provides continuing authority for borrowing under the short-term commercial paper program, should be clarified in the same manner.
1986	3.33	Recommendation that the Government ensure that the expenditures processed through the Contingencies vote conform with the description of vote expenditures in the Estimates.	Resolved. The description of the Contingencies vote has been expanded in the Estimates for the year ending March 31, 1988.
1986	3.38	Recommendation that Senior Financial Officer (SFO) bank accounts be evaluated, and that the SFO bank account balances be reported as cash in bank in the Government's accounts and annual financial statements.	Resolved. These bank accounts were treated properly in the Government's 1987 financial statements.
1987	2.44	Recommendation that the Ministry review legislation to determine whether or not settlement provisions concerning Non-Residential School Taxes (NRST) are equitable and meet the needs of the Ministry and municipalities, and that it devise more conclusive measures to resolve the status of outstanding balances.	This area continues to pose problems, although the Ministry is taking active steps to address the concerns. We understand that the Ministry has initiated reconciliation procedures with each municipality to resolve old balances.

Report	Paragraph	Subject	Status as at Date of Preparation of this Annual Report
1987	2.49	Recommendation that the *Financial Administration Act* be clarified with respect to the requirements of having sinking funds authorized by OIC and of having sinking fund assets segregated from other assets. Recommendation that, regardless of the legislative requirements, the Government approve both the creation of sinking funds and the conditions that apply to them.	In March 1987 a general sinking fund policy was approved by the Deputy Minister. However, formal approval by the Minister or by OIC has not been obtained to date.
MINISTRY OF MUNICIPAL AFFAIRS			
1986	3.87	Recommendation that adequate statutory authority be provided for grant payments which are made to municipalities by the Ministry from the Revenue Sharing Fund for policing costs in non-urban areas within municipal boundaries.	No change.
1987	2.39	Comment that corrective actions taken by the Ministry should, when completed, effectively eliminate the problem of overpayments of sewerage assistance and water facilities grants.	Refer to Internal Control Review, Paragraphs 2.131 to 2.164.
MINISTRY OF SOCIAL SERVICES AND HOUSING			
1983	3.33	Concern about the overall system for processing income assistance payments including file documentation, segregation of duties, cheques issued by computer, and cheques issued by field offices.	With the exception of concerns about GAIN file documentation at district offices, controls to resolve all significant weaknesses in processing income assistance payments have now been implemented. The Ministry is considering a general review of its current policies regarding GAIN file documentation.

Report	Paragraph	Subject	Status as at Date of Preparation of this Annual Report
1986	3.73	Recommendation that the Ministry expedite the resolution of a negotiated settlement with the Federal Government for the federal share of the costs of operating the civil legal aid program in 1981, 1982 and 1983. Deficiencies in the Legal Services Society's documentation precluded the Ministry from submitting cost-sharing claims under the Canada Assistance Plan in the normal manner for those years.	The claims involved have now been settled.

Systems of Financial and Administrative Control, and Compliance with Legislative and Related Authorities

Systems of Financial and Administrative Control, and Compliance with Legislative and Related Authorities

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Background

Introduction

2.43 Implicit in the Auditor General's mandate to examine the financial statements of the Government is a requirement to evaluate and comment on the Government's system of financial, administrative and legislative control.

2.44 Reliable internal control systems are essential to ensure that, among other things, expenditures are made only as authorized, all revenue to which the government is entitled is assessed and collected, financial transactions are accurately recorded and reported, assets of the Crown are safeguarded, and relevant legislative and other authorities are complied with.

2.45 As described in our Mission Statement, we provide independent opinions and evaluations with respect to these matters, and make recommendations for improvement, where necessary.

Audit Coverage

2.46 Two basic approaches are employed in our examination of control and compliance matters.

2.47 The first derives directly from our audit of the Government's annual financial statements. In the course of that work we perform various tests in order to obtain evidence in support of our audit conclusions. This work takes place in every ministry, and touches on most of the Government's control systems. If specific weaknesses or instances of non-compliance with legislative and related authorities are noted, and if they are considered of sufficient importance to warrant the attention of the Legislative Assembly, they are detailed in our Annual Report. Matters of lesser significance are handled through direct discussion with each ministry responsible. While this approach ensures that matters coming to our attention in the course of our regular examinations are properly dealt with, it is not intended or designed to constitute a thorough and complete review of the Government's control systems. Any findings and recommendations developed through this aspect of our work are contained in that section of our Annual Report dealing with our audit of the Government's annual financial statements.

2.48 The second derives from specific internal control reviews. In order to provide the impartial evaluations needed by the Assembly with respect to control and compliance, we examine, in depth, internal controls in all significant accounting systems over a reasonable period of time. This cyclical examination of financial, administrative and legislative controls, initiated during the past year, is viewed as an essential element in meeting the Auditor General's mandate with respect to the Government's financial statements. Comments with respect to these reviews follow in this section of our Annual Report.

Nature of Internal Controls

2.49 Internal controls within the Government may be subdivided into three groups:

- *financial controls*, which comprise the plan of organization and the procedures and records that are concerned with the safeguarding of assets and the reliability of financial records;
- *administrative controls*, which include, but are not limited to, the plan of organization and the procedures and records that are concerned with the decision processes leading to management's authorization of transactions; and
- *legislative controls*, which comprise the plan of organization and the procedures and records that are concerned with ensuring that transactions are carried out in accordance with applicable legislative and related authorities.

Inherent Limitations of Internal Controls

2.50 Each system of internal control is designed to ensure, as far as is practical, that particular objectives of management are achieved. Internal control can provide reasonable assurance to management that such objectives are reached but, because of inherent limitations, it can never provide absolute assurance.

2.51 The inherent limitations of internal control include:

- the need that controls be cost-effective;
- the fact that most controls tend to be directed at recurring types of transactions rather than unusual transactions;
- the possibility of human error;
- the fact that the effectiveness of controls may vary with the volume of transactions or changes of staff;
- a control which is dependent on segregation of duties may be circumvented by collusion; and
- a person responsible for exercising control may abuse that responsibility by overriding a control.

2.52 Because of these inherent limitations in any system of internal control, errors or fraud may occur and not be detected. Also, projection of any evaluation of the system of internal controls to future periods is subject to the risk that procedures may become inadequate because of changes in conditions, or that the degree of compliance with the procedures may deteriorate.

Internal Control Reviews

Methodology

2.53 Our reviews concentrate on procedures. We look at how controls operate, rather than evaluating the end results of the ministries' activities.

2.54 We examine the internal controls in existence as at a particular date. To ascertain the controls in a system, we review ministry documentation and interview the staff responsible for the system. After making our initial evaluation, we perform compliance tests on the controls to ensure that they were operating effectively as at the review date. The nature and extent of the tests varies depending on the control being tested, but generally are limited to a fairly short period of time around the review date. We do not attempt to test the operation of controls for an extended period of time. Our evaluation is amended, as necessary, to reflect the results of our compliance tests.

2.55 We then issue a detailed report to the ministry presenting our conclusions as to the adequacy of the internal controls. It also includes a brief description of the process involved, an analysis of the internal controls, and our recommendations for improvements where we have identified weaknesses.

2.56 Our conclusions state whether we rate the level of assurance that the internal control objectives will be met as high, moderate or low. These ratings should be interpreted as follows:

- High — strong controls, with relatively low chance of error occurring.
- Moderate — reasonable controls but with some weaknesses, with a possibility of error occurring.
- Low — weak or non-existent controls, with a relatively high risk of error occurring.

Results

2.57 This year our Report includes the results of five internal control reviews.

2.58 In each of the systems reviewed, our overall conclusion was that there is moderate assurance that the objectives of the internal controls will be met. That is, there are reasonable controls but with some weaknesses, with a possibility of error occurring.

2.59 For each of our reviews, we issued to the ministry concerned a detailed report containing an analysis of control strengths and weaknesses. The reports included recommendations concerning those areas that we considered to require some improvement. In the report summaries that follow, there is an overview of our findings together with details of the more significant recommendations.

Ministry of Finance and Corporate Relations: Provincial Treasury Investment System

Purpose of the Review

2.60 The purpose of our review was to determine whether internal controls for the main functions of the investment system provide reasonable assurance that:

Safeguarding of cash and investments

- Investments and cash under Provincial Treasury's administration are safeguarded.

Management of capital

- Capital is managed in a manner that seeks to maximize yield, minimize risk and, where required, provide for the orderly retirement of the outstanding debt of the Province and its agencies.

Authorization and support of transactions

- All transactions are authorized and properly supported.

Collection and deposit of proceeds

- All proceeds from the settlement of trades, maturities and income collection are received when due and are deposited promptly.

Recording of transactions

- All transactions are accurately and promptly recorded and classified.

Unit pool pricing and income attribution

- Daily unit pricing and income attribution for pooled portfolios is completely and accurately calculated in accordance with stated policies.

2.61 Because the system is heavily computerized and the controls over data processing impact on all the above objectives, we reviewed data processing controls to determine whether they provide reasonable assurance that:

- the information is processed accurately; all access to the system and the information is authorized; changes to the system are properly controlled; and processing can be recovered and resumed after interruption.

Conclusion

2.62 We commend Provincial Treasury for its awareness of the importance of strong controls. Overall, we found many good controls in the system; however, we also noted some weaknesses. Our assessment of the level of assurance provided by the internal controls, by function, is as follows:

• Safeguarding of cash and investments	High
• Management of capital	Moderate
• Authorization and support of transactions	Moderate
• Collection and deposit of proceeds	High
• Recording of transactions	Moderate
• Unit pool pricing and income attribution	Moderate
• Data processing	Moderate

2.63 A major factor in our assessments is the reliance placed by Treasury on data processing controls within the Information Systems Branch of the Ministry. In general, Treasury relies heavily upon such controls without performing its own checks on processing. This is not a weakness in itself but it does mean that the level of assurance provided by controls for many functions cannot be higher than that provided by controls within data processing. We concluded that controls over data processing are reasonably good but with some weaknesses. If these weaknesses were addressed, or if Treasury designed manual checks over processing, the level of assurance from the system as a whole would be increased.

Background

2.64 Under the authority of the *Financial Administration Act* and various other Acts, Provincial Treasury actively manages investment portfolios, having a book value of approximately $12 billion as at 31 December 1987, on behalf of the Province, Crown corporations and pension funds. In addition, Provincial Treasury settles all investment transactions and maintains physical custody of long-term investments on behalf of the Workers' Compensation Board, a $3 billion portfolio.

2.65 A broad range of qualified investments is defined by Section 36 of the Act. However, at the current time, investments consist primarily of government bonds, short-term treasury bills and bank paper, and units in Province of British Columbia pooled portfolios. These pooled portfolios are also managed by Treasury. Units may be purchased and sold daily by Treasury clients at market value. The value of a unit is determined by dividing the market value of the net assets of the portfolio by the total number of units outstanding.

2.66 Treasury's activities with respect to the investment system include:

- development of investment strategies;
- day-to-day investment in financial markets;
- credit risk analyses of potential and current investments;
- physical custody of bond investments;
- settlement of investment trades and interest collection;

- accounting and reporting of all investment, income and capital transactions; and
- operation of pooled portfolios.

2.67 The Ministry's Information Systems Branch (ISB) provides the technical support for the computerized aspects of the system. The system is run on computer system software and hardware at the British Columbia Systems Corporation (BCSC).

Scope of the Review

2.68 We reviewed all manual and computer controls relevant to the system at Provincial Treasury and ISB as at 31 December 1987. The review did not include Treasury's cash management system nor the system relating to custodial deposits under various bonding acts. Neither did we examine controls relating to long-term pooled portfolios, a new subsystem, which was not operational at the time of our review.

2.69 The internal controls include both general computer controls and controls specific to the investment system. General computer controls include control procedures that provide security and control over the computer programs, data and hardware facilities. System controls should provide assurance that all transactions are authorized, recorded and processed completely, accurately and on a timely basis. Two types of procedures contribute to control in the system: Treasury control procedures and programmed control procedures. Treasury control procedures are not dependent on the reliability of general computer controls, but are manual control procedures carried out by Treasury. The programmed control procedures are dependent on the reliability of general computer controls. They are either manual control procedures that use computer produced output for the exercise of those procedures or are automated control procedures contained within computer programs.

2.70 General computer controls are present at both ISB and BCSC. BCSC provides the hardware facilities and supports the security and control over the computer programs and data. Therefore, if there was a significant weakness in controls at BCSC, there would be greater exposure to an error occurring in the investment system. We did not perform any compliance testing at BCSC. We obtained information about the controls in operation there from a variety of sources, including a report by external consultants issued in March 1986 of a review of the computer environment controls at the Victoria Computer Centre. The report indicated that the control practices and procedures were sufficient to provide reasonable assurance that the control objectives specified in the report were achieved at the point of time when the review was done.

Findings

Safeguarding of Cash and Investments

2.71 We found controls in this area to be strong and to provide a high level of assurance. Physical access to the Treasury vault is well controlled, and there are procedures in place to keep track of securities that are removed from the Securities Department, although we felt that the logging in of securities could be improved. Short-term money market securities are kept by an external settlement and safekeeping agent, with whom there is an appropriate agreement in existence.

Management of Capital

2.72 We concluded that the level of assurance provided by controls for this function is moderate.

2.73 There are some evident control strengths for the management of capital. The *Financial Administration Act* provides legislative guidelines as to qualified investments. An investment strategy is developed quarterly and regular management meetings are held to review current trading activity and portfolios. The Ministry develops its own list of approved investments. External prices are used as a basis to value internal trades. There are procedures in place to ensure that trust funds are fully invested.

2.74 Many of the activity reports and exposure reports used by Treasury are not reconciled to processed transaction reports. Instead, Treasury relies on data processing controls to ensure print-out accuracy. We assessed the level of assurance from data processing controls as being moderate. That was one of the factors considered in our overall assessment.

2.75 The nature of day-to-day investment trading, which requires instant decisions over the telephone, has an inherent risk because individual traders have the authority to commit the Minister of Finance and Corporate Relations to large investments without any preapproval by a second person. Therefore, if investments were made that did not meet legislative or other established criteria, they could only be detected after the fact. Trades cannot be specifically undone, although a prompt review of trades may allow offsetting trades to be arranged to minimize potential loss. Currently, trading activity is reviewed on a weekly basis.

2.76 **We recommended** to the Ministry that a daily review of trades be made to allow prompt remedial action in the event of trades being made outside established guidelines.

2.77 In 1979 and 1980, Treasury employed consultants to evaluate its performance in relation to external managed portfolios. Since that time, only internal evaluations of investment performance have been carried out. Treasury is currently developing a

portfolio performance measurement system, and has employed an external consultant in this process. Treasury intends to provide periodic reports on its investment performance to its clients for their use. We will be reviewing the performance measurement procedures adopted by Treasury when their development is finalized.

Authorization and Support of Transactions

2.78 We had four detailed control objectives relating to this function. The level of assurance provided by the controls for each of the detailed objectives is such that we assessed as moderate the overall assurance from controls for this function.

Settlements of Investment Transactions

2.79 The first objective was that controls should ensure that settlements of investment transactions are properly authorized, payment is made only upon receipt of securities and securities are released only upon receipt of proceeds.

2.80 We concluded that controls for this objective provide a high level of assurance. There is good segregation of duties and Treasury uses an external settlement agent for both short-term and long-term investment trades. There is a comprehensive signed agreement in place between the Province and its agent.

Disposals

2.81 The second objective was that controls should ensure that disposals are entered into only for investments held. Without such controls, the Ministry could incur losses if a commitment was made to sell an investment that it did not have.

2.82 Accurate, up-to-date inventory records and a reliable programmed edit routine are essential to the achievement of this control objective. These, in turn, depend on reliable data processing controls. Our evaluation concluded that moderate assurance is provided by such controls and that, accordingly, a moderate overall level of assurance applies to this objective.

Capital Withdrawals

2.83 The third objective was that controls should ensure that all, and only, valid requests for capital withdrawals are authorized and disbursed.

2.84 Capital placed under the administration of Treasury can be cash made available on a temporary basis by the Province and Crown corporations and agencies, or long-term capital of pension funds and sinking funds. Capital may be withdrawn by entities upon request, except from sinking funds for which disbursements are specifically made to repay the debt issues to which those funds relate.

2.85 We concluded that the level of assurance for this objective is low because client requests are usually made only verbally and disbursements are not always to the client's main operating bank account. Therefore, those individuals signing related cheques or approving electronic funds transfers have only internally generated input forms to support the disbursements.

2.86 **We recommended** that either written confirmations of verbal requests for capital withdrawals be obtained from trust clients or each client be asked to provide an approved list of payee accounts to which funds may be disbursed.

Authorization of Adjustments

2.87 The fourth objective was that controls should ensure that all adjustments, by journal entry or otherwise, are properly authorized and supported.

2.88 Adjustments can be in the form of various specialized journal entries which have specific posting constraints in that the system will only accept certain adjustments for particular accounts. Adjustments can also take the form of investment trade tickets themselves, since the system allows both reversals of transactions and backdating.

2.89 We found that, while reasonable controls exist for some specialized journal entries, there is a weakness regarding the review and approval of adjustments made by trade ticket. Therefore, we concluded that assurance from controls for this objective is moderate.

Collection and Deposit of Proceeds

2.90 We concluded that controls over the collection and deposit of proceeds provide high assurance.

2.91 Proceeds from short-term investment maturities include both principal and interest, since most short-term investments are discount notes. They are collected and credited to the Province's bank account automatically by the safekeeping and settlement agent. Bonds must be physically submitted to original issuers before redemption proceeds will be sent. Most bonds are fully registered and, therefore, most interest is automatically received from issuers, often a few days before its due date, in post-dated cheque form. Some interest is in the form of coupons, attached to bonds in the vault, and these must be clipped and submitted to the bank for redemption.

2.92 Data processing controls are relied upon to produce accurate prelists of expected maturities and long-term interest. We assessed the assurance derived from data processing controls to be moderate. However, the fact that prelists are produced at

all is a strength. Since most interest is received automatically and since bonds are filed by date and counted periodically, it is unlikely that, should an error or omission arise on the prelists, it could, in itself, cause a significant loss.

Recording of Transactions

2.93 We established three detailed objectives for this function. We assessed the level of assurance for each of the detailed objectives as moderate and, therefore, we concluded that the overall assurance for this function is moderate.

Complete, Accurate and Prompt Recording

2.94 The first objective was that controls should ensure that all, and only, approved transactions are accurately and promptly recorded and classified.

2.95 We concluded that controls for this objective provide moderate assurance.

2.96 Investment trades are entered into the computer system as they occur. Settlements, maturities and interest receipts are processed by releasing computer calculated prelists into the system. Actual settlements on short-term trades occur on the same day as the trade, while settlements on long-term trades, by industry convention, usually occur seven business days after the trade date. Various reports are generated by the computer system daily, monthly or on request. Treasury has the capability of reversing or backdating investment transactions.

2.97 There are a number of good controls in place, including thorough screen edits, bond counts and settlement prelists. However, these are offset by the fact that data entry clerks have, on occasion, entered into the system transactions without complete and proper approvals.

2.98 **We recommended** that data entry clerks be specifically instructed not to release prelists for input without complete and proper approvals and not to accept transaction tickets without all appropriate signatures.

2.99 Backdating of transactions is common but backdated transactions are not subjected to specialized review procedures, nor does the system currently provide, for management review purposes, a listing of backdated transactions processed. Transactions can be backdated a few days or many months. Backdating of transactions, without adequate review, could undermine the reliability of the records and create difficulties for report users.

2.100 **We recommended** that particular attention be paid to backdated transactions. Transactions backdated beyond one month should be subject to specialized review before input, including a review of the impact of the entry on the transactions history of the relevant investment issue.

2.101 Investment inventory and other computer printouts are not reconciled to input nor are computer generated calculations test checked. Data processing controls are relied on to produce accurate reports and the assurance for this objective can be no greater than that derived from data processing controls, which we assessed as moderate.

Complete and Accurate Calculation of Amortization

2.102 The second objective was that controls should ensure that amortization of discounts and premiums are completely and accurately calculated and recorded, based upon approved policies.

2.103 Short-term investments held in pooled portfolios have amortization calculated automatically and posted daily by computer for all investments held. Amortization of short-term investments held outside of pooled investment portfolios is calculated automatically and posted by computer for sales and maturities only. Long-term investment amortization is calculated, upon request, by computer.

2.104 Investment inventory and other computer printouts are not reconciled to input nor are computer generated calculations test checked. Because data processing controls are relied on to generate ongoing accurate calculations and reports, the level of assurance for this objective is directly related to the level of assurance from data processing controls, which we assessed as moderate.

Complete and Accurate Recording of Capital Receipts and Withdrawals

2.105 The third objective was that controls should ensure that all capital receipts and withdrawals are accurately and promptly recorded.

2.106 Specialized input forms are initiated to record new capital received from, and capital disbursed to, trust clients. Bank reconciliations would likely catch significant unrecorded capital receipts and cheques. However, we noted that bank reconciliations are not always prepared promptly after month-end, nor necessarily reviewed on a timely basis, and, therefore, we concluded that the level of assurance provided by controls is moderate.

Unit Pool Pricing and Income Attribution

2.107 We had two detailed control objectives for this function. We concluded that, as the assurance from controls was assessed as moderate for both detailed objectives, the overall level of assurance for this function is also moderate.

Daily Unit Pricing

2.108 The first objective was that controls should ensure that daily unit pricing is calculated accurately.

2.109 Quotes are obtained during the trading process and entered into the main system through a microcomputer. The system determines automatically the term to maturity for each pooled portfolio investment, extrapolates and calculates a price for each investment and determines individual market values, total portfolio value and unit price for the pooled portfolio based on units outstanding. This price is then used for unit purchases and sales.

2.110 Controls over entering quotes into the system are good, but computer generated calculations are not test checked on an ongoing basis. Programmed computer calculations are relied on to generate accurate portfolio valuations and unit prices. So, data processing controls, which we assessed as moderate, result in our assessing as moderate overall assurance for this objective.

Income Attribution

2.111 The second objective was that controls should ensure that income attribution to unitholders is complete and accurate in accordance with the stated policy.

2.112 Income attributed to unitholders consists of amortization of short-term discounts on investments held within each pooled portfolio. Amortization is calculated automatically and posted to the portfolio's account daily. Amortization is calculated and accumulated for each unitholder daily, and at month-end is posted automatically to unitholder accounts.

2.113 Computer generated calculations are not test checked on a ongoing basis. Treasury relies entirely on the computer system to calculate, accumulate and post income attributed to unitholders. Once again, the overall assessment of the level of assurance provided by controls for this objective was driven by our assessment of the data processing controls as moderate.

Data Processing

2.114 Our overall assessment of controls over data processing is that they provide moderate assurance. We divided data processing into four detailed objectives.

Complete Processing of Valid Data

2.115 The first objective was that controls should ensure that all valid data entered into the computer system is processed to normal program completion in a timely manner.

2.116 We concluded that the level of assurance provided by the controls for this objective is high. We found that there are adequate, well documented procedures for transaction processing. There are extensive on-screen edits for detecting input data which is inaccurate, incomplete or unreasonable. Also, an account balancing report provides a control over completeness and accuracy of processing.

Restriction of Access

2.117 The second objective was that controls should ensure that all access to computer data and computer programs is authorized.

2.118 Our assessment was that the controls provide moderate assurance. Although the software security product used provides a high level of assurance, there is not a complete segregation within ISB of the functions of developing and programming changes and transferring the changes into production.

System Changes

2.119 The third objective was that controls should ensure that changes to the system are properly controlled.

2.120 We concluded that, because of the weaknesses noted below, the level of assurance from controls for this objective is moderate. We were pleased to note that Treasury is involved in initiating and testing changes. However, we noted that the functions of approving changes and authorizing their movement into production are shared by two employees who also have system development responsibilities. This lack of segregation between production and systems development increases the risk that an accidental or intentional error could occur.

2.121 There is an inherent problem with any database with regard to the risk that unauthorized or incorrect changes could be transferred to production. The risk could be minimized by creating a formal Data Base Administrator (DBA) position, thereby limiting to one person the ability to move program changes into production.

2.122 Responsibilities of a DBA would usually include:

- maintaining data integrity, completeness, accuracy, security, and timeliness;
- defining how data is stored on the data base and how it is accessed by users;
- coordination with the operations function; and
- monitoring and improving data base system performance.

2.123 **We recommended** a formal DBA position be established to include the above responsibilities. This position would review new application programs or changes to existing programs, and authorize BCSC to move these into production. This independent review would reduce the risk of unauthorized access to data and programs and, therefore, provide more assurance on the completeness, accuracy and security of the computerized system.

2.124 We also noted that testing and the review of test results may not always be sufficient to detect problems which result from the program changes. During our test period of December 1987 and January 1988, an error had occurred because only the changed report had been reviewed. The effect of the changes on the databases had not been properly tested nor reviewed by Treasury or the ISB Production Manager.

2.125 **We recommended** that Treasury establish a rigorous method for checking test results before they approve changes be moved into production. This would provide more assurance that the changes will produce the desired results and not have any adverse effects. Test results should be retained so that they can be referred to if subsequent errors do occur.

Backup and Recovery Plans

2.126 The fourth objective was that controls should ensure that, in the event of accidental of deliberate interruptions to normal operations, critical Treasury investment activities can be maintained and recovered.

2.127 Our conclusion was that the level of assurance provided by the controls for this objective is moderate.

2.128 Processing interruptions occur from job failures or job cancellation by BCSC. These can occur several times a month. There are adequate, well documented procedures which are followed where processing is interrupted.

2.129 The Ministry is currently conducting a risk study but does not have a clearly documented and tested Emergency, Backup and Recovery Plan to ensure critical activities can be maintained and recovered following an interruption to operations. Because of the nature of Treasury's business, management believes their system cannot be down for more than 24 hours. This is because unit pools are valued daily based on market prices, and it would impact clients who depend on the sale of units for cash flow.

2.130 **We recommended** that the Ministry develop, document and test plans at three levels. First, the Emergency Plan or immediate response to the problem. Second, the Backup Plan or computer hardware, software and data needed to restore operations. And third, the Recovery Plan, or procedures to resume normal operations. The plan should identify all information and resources required to resume critical processing and back these up appropriately. It should include documented manual or microcomputer procedures for the critical processing activities in case the automated system cannot be brought back within the 24 hour time constraint. Treasury and ISB staff should receive adequate training with regard to recovery procedures. The Ministry should, when developing a plan, consider the adequacy of BCSC's Recovery Management Group's plan for restoring computer service in the event of a major outage.

Ministry of Municipal Affairs: Sewerage Assistance and Water Facilities Grants Payment System

Purpose of the Review

2.131 The purpose of our review was to determine whether the internal controls for the main functions of the sewerage assistance and water facilities grants payment system provide reasonable assurance that:

Authorization of projects

- Grants are made only for projects falling within the parameters set by legislation, on the basis of applications that are subject to appropriate authorizations and defined criteria.

Ensuring conditions are fulfilled

- Grants are paid only after required conditions have been fulfilled.

Verification of grant claims

- Grant claim forms are properly checked and approved.

Payment of grants

- Grant payments are based upon a recognized liability, and the related cheque requisitions are accurately prepared and appropriately authorized.

Accounting for grant payments

- The related accounting distributions are accurately computed and promptly classified, summarized and recorded.

Keeping track of commitments

- Grant commitments and subsequent grant payments are recorded accurately and monitored.

Conclusion

2.132 Good controls exist, particularly over the initial application phase, but they are offset by significant weaknesses in other areas. Our assessment of the level of assurance provided by the internal controls, by function, is as follows:

• Authorization of projects	High
• Ensuring conditions are fulfilled	Moderate
• Verification of grant claims	Low
• Payment of grants	Moderate
• Accounting for grant payments	Moderate
• Keeping track of commitments	Moderate

2.133 During this review and our regular audit work on the Government's 1987 financial statements we discovered a number of errors in grant payments during the period from 1 April 1986. This was in addition to errors reported in our 1987 Annual Report (para. 2.35). While the value of errors noted is fairly small, the frequency of error in our small sample sizes indicates a strong likelihood that errors are occurring on a regular basis. Therefore, **we recommended** to the Ministry that it perform an in-depth review of sewerage assistance and water facilities grant payments for the period from 1 April 1986 to 31 December 1987.

Background

2.134 The Revenue Sharing Fund was created by the Revenue Sharing Act, 1977. It provides conditional and unconditional grants to all British Columbia municipalities and regional districts on the basis of established criteria.

2.135 Grant payments from the Revenue Sharing Fund for the year ended 31 March 1987 were:

	Amount ($ millions)
Unconditional	95
Conditional	
• sewerage assistance and water facilities	103
• other	21
	219

2.136 Unconditional grants are funds distributed to municipalities based on their per-capita assessments and the ratio of their expenditures to those of all the municipalities in the province.

2.137 Conditional grants are funds available to municipalities for purposes specified by the Revenue Sharing Act Regulations.

2.138 Sewerage assistance and water facilities grants are two different types of grant, although the criteria for each are similar. The majority of these grants are now made under what is referred to as the "old" program. They support specific, approved projects, and are paid semi-annually to municipalities to cover the servicing costs of municipal debt placed with the Municipal Financing Authority. Although the old program ended in 1983, grants related to projects approved up to 1983 continue to be paid because the associated debt will not expire until around the year 2000. The "new" program involves one-time grants of between 25 and 50% of the capital costs for approved projects, paid on project completion.

2.139 Other conditional grants include basic grants, made to qualifying municipalities based on criteria similar to unconditional grants, and highways grants.

Scope of the Review

2.140 We concentrated our review on sewerage assistance and water facilities grants for several reasons. They represent a significant annual expenditure; they require some judgement as to eligible costs; and, in certain cases, they involve complex computations.

Findings

Authorization of Projects

2.141 We concluded that controls over the authorization of projects provide high assurance. The Revenue Sharing Act Regulations contain criteria for grant qualification and grant amount. We found that, for new program grants, there is a well-established although informal procedure for reviewing and approving the proposed projects. The Regulations limit the amount that the Ministry can grant to a municipality in a year and over the life of each of the programs.

Ensuring Conditions are Fulfilled

2.142 We concluded that the level of assurance provided by controls is moderate.

2.143 The signed grant application form provides some assurance that the costs reported on the form are correct and were incurred for the project. However, the Ministry does not have procedures to ensure that new program grants are based on eligible costs actually incurred by a municipality for purposes of an approved project. Neither does it follow up to ensure that the municipality has complied with technical specifications of the project.

2.144 **We recommended** that the Ministry request more cost information from municipalities and review this information to ensure that the terms and conditions of the original application have been met.

Verification of Grant Claims

2.145 We found that there is a low level of assurance from controls in this area.

2.146 Although the claim forms used for grants under the old program are comprehensive and have a number of explanatory notes, and the claim forms for grants under the new program are well laid out and easy to complete and review, there are a number of control weaknesses as detailed below.

Lack of Procedures Manual

2.147 We noted that the Ministry has a draft procedures manual that contains some detailed procedures for checking claims, but a more complete, up-to-date version of the procedures is required. This lack of a finalized procedures manual could result in inappropriate or incomplete checking of the claims, especially where the staff doing the checks are unfamiliar with the programs.

2.148 **We recommended** to the Ministry that they update and approve the procedures manual and distribute it to all pertinent financial staff.

Inadequate Review of Claims

2.149 There is incomplete supervisory review of grant claims. Only high dollar value and problem claims are reviewed, and there is no documentation of the review.

2.150 In our 1987 Annual Report (para. 2.35), we reported that grant overpayments had occurred during the 1985 and 1986 fiscal years. In a small sample reviewed during our regular audit work on the Combined Financial Statements of the Province for the year ended 31 March 1987, we noted two overpayments totaling $1,355 and one underpayment of $1,266. As a result of the findings of this internal control review, we selected for testing a small sample of grant payments made between 1 April and 31 July 1987. We found two further overpayments totaling $2,998 and one underpayment of $412.

2.151 These errors involved simple clerical errors or incorrect application of Ministry policy relating to assessment values. As supervisory reviews are not documented, we were unable to determine whether these claims had been reviewed.

2.152 **We recommended** that all claims be reviewed by a second person before payment and that the review be documented.

Lack of Supporting Documentation

2.153 Ministry policy regarding supporting documentation for claims is not always enforced, and this results in an increased risk of error occurring.

2.154 Beginning with the 1987 calendar year, water and sewer claim forms indicate that the municipality should provide supporting documentation when submitting claims. We reviewed a small sample of claims paid between 1 April and 31 July 1987, and found one example where a claim was approved for payment, even though it included debt repayments of $472,687 for which supporting documentation had not been provided to the Ministry.

2.155 In situations like this, the previous claim is checked to see that the current amount being claimed is reasonable. However, this does not identify situations where the

grant should be revised because of new conditions, such as changes to the interest rates on debt, or where the amounts claimed previously have been incorrect. Without proper support, errors could go undetected.

2.156 **We recommended** that procedures be introduced to prevent claims being processed unless the applicant provides the required supporting documentation.

Payment of Grants

2.157 We concluded that controls over payment of grants provide moderate assurance.

2.158 Controls over the payment of new program grants are good. However, the personnel providing payment authority on cheque requisitions for grants under the old program do not actually see the grant claim form or the grant file. This could result in discrepancies between the claim form and the cheque requisition, or errors on the claim form, not being detected.

2.159 During our regular audit work for the year ended 31 March 1987, we noted that the Ministry paid a grant of $8,750 to the wrong municipality. Ministry staff subsequently discovered the error, recovered the amount and paid it to the correct municipality.

2.160 **We recommended** that personnel giving payment authority be provided with full supporting documentation along with the cheque requisitions.

Accounting for Grant Payments

2.161 We concluded that controls over accounting for grant payments provide moderate assurance.

2.162 There are some good controls over the accounting distribution and there are procedures in place to reconcile payment details with information recorded in the Government's central accounting system. However, we noted that payment authorities reviewing the cheque requisitions may not always be thorough. This could result in incorrect or inappropriate accounting treatment of grant payments.

Keeping Track of Commitments

2.163 We concluded that controls over commitments provide moderate assurance.

2.164 We found that the commitment records provide adequate detail but noted that there is no check to ensure the records include all commitments. Also, we noted that the commitment records are not regularly reconciled with other financial reports. As a result, inaccurate information could go unnoticed, possibly leading to decision errors.

Ministry of Social Services and Housing: Shelter Aid for Elderly Renters Grant Payment System

Purpose of the Review

2.165 The purpose of our review was to determine whether the internal controls in the Shelter Aid For Elderly Renters (SAFER) grant payment system provide reasonable assurance that:

- Grants are only made to renters considered eligible under the legislation on the basis of applications which meet legislative and other established criteria.
- Applications are properly checked and approved.
- Approved applications are promptly summarized and accurately recorded.
- Changes that are made affecting eligibility and entitlement to receive SAFER benefits are in accordance with legislative and other established criteria, are properly checked and approved, and are properly recorded.
- Payments are based upon a recognized liability, are accurately prepared and are appropriately authorized.
- Payments are promptly and properly classified, summarized and recorded.

Conclusion

2.166 The SAFER grant payment system provides moderate assurance that SAFER benefits in the correct amounts are paid to renters eligible under the SAFER Act and Regulation. The level of assurance from the system as a whole would be substantially increased if control procedures were established at the point of initiation of transactions, with some improvements in the procedures that follow.

2.167 This conclusion is based on our assessment that controls to establish and verify eligibility and entitlement to benefits are weak or missing. Consequently, the effectiveness of some of the reasonably strong controls which the Ministry has established over further processing and recording of transactions is significantly undermined.

2.168 Given that individual monthly benefits are small and cannot exceed predetermined amounts and that applicants are required to reapply annually, a large number of invalid claims and errors would have to be made without being detected to cause a significant monetary loss in the context of total program expenditure of $7.4 million. This, together with the nature of SAFER clientele and past experience, have been cited by management in its assessment that the likelihood of significant errors is not probable.

2.169 As a result of the weaknesses in internal controls at the point of initiation of transactions, we performed additional tests with respect to a small number of SAFER benefit recipients. Our tests did not reveal any major errors, which provides a certain degree of support to the assertions by management. We must, however, point out that we were unable to test all aspects of eligibility and entitlement criteria because of a lack of documentary evidence.

Background

2.170 The Ministry provides financial assistance to eligible renters under the *Shelter Aid For Elderly Renters Act.*

2.171 Total program expenditures budgeted for the 1988 fiscal year are $7.4 million. As at 30 November 1987 there were 8,607 SAFER benefit recipients, of which 8,223 were singles and 384 were couples. As a result of increases in the various pension benefits and unchanged maximum monthly rent claimable, both the number of SAFER recipients and the total program expenditures have been declining over the past four years.

2.172 To be eligible for SAFER benefits, applicants must be 65 years of age or older, be a recipient of Old Age Security and be renting a principal residence in British Columbia. In addition, applicants or their spouses must have resided in British Columbia for two years immediately prior to application or for five continuous years at any time in the past.

2.173 SAFER benefits equal 75 per cent of the amount by which rent exceeds 30 per cent of the applicant's total income. The current maximum monthly rent that could be claimed for SAFER benefits is $330 for a single person and $365 for a couple. For the 1988 fiscal year, maximum monthly benefits for a single person and a couple are $91 and $71 respectively.

2.174 The Ministry reviews applications and changes in client status before sending the applications and change forms to Elan Data Makers (Elan), a service bureau, for keypunching data on to a tape. The tape is then forwarded to British Columbia Systems Corporation (BCSC) which maintains the SAFER master file and calculates the monthly benefit amounts.

Scope of the Review

2.175 We reviewed all manual and user controls relevant to the SAFER grant payment system as at 30 November 1987. The user controls are manual procedures that use computer produced output to provide assurance that all transactions are processed and recorded completely, accurately and on a timely basis.

2.176 We did not consider it necessary to review general computer controls and application controls at Elan and BCSC.

Findings

Establishment of Eligibility and Entitlement

2.177 We concluded that the level of assurance provided by internal controls over establishment of eligibility and entitlement is low.

2.178 We found that the eligibility and entitlement criteria are simple, and are clearly established in the SAFER Act, Regulation and Ministry policies. However, we noted that the Ministry does not usually require the applicant to submit documentary evidence to support his eligibility and entitlement. As a result, there is no assurance that SAFER grants are made only to renters who are eligible, and are determined in correct amounts.

2.179 **We recommended** that the Ministry require the applicant to submit sufficient, appropriate documentation in support of his claim for SAFER benefits. Alternatively, the Ministry could independently check certain information on the application and require documentation for other pertinent data.

2.180 We also found that the current procedures manuals include outdated material, are incomplete and are poorly organized. This could result in inappropriate, incomplete or inconsistent application of the Ministry policies.

2.181 **We recommended** that the Ministry prepare a formalized and comprehensive procedures manual covering all aspects of the SAFER program operations.

Verification and Approval of Applications

2.182 We concluded that the level of assurance provided by internal controls over verification and approval of applications is low.

2.183 The application and reapplication forms are well designed, easy to complete, include all pertinent questions, and have explanatory notes accompanying them. Therefore, the forms are easy to review. The applicant must sign the form to certify the correctness of the information contained therein, and have it attested to by a witness. Also, written eligibility and entitlement criteria are available to all staff checking the forms.

2.184 However, as explained above, it is doubtful that applications can be verified satisfactorily in view of the lack of requirement to submit documentary evidence.

2.185 We also noted that there is no formal delegation of spending authority to adjudicators, who approve most applications. At present, only the Supervisor, Services to Seniors, and the Manager, Computer Payments and Reconciliation, have been delegated spending authority to initiate SAFER expenditures. As a result, the Ministry's financial signing authority policies are not being complied with.

2.186 **We recommended** that the Ministry review its spending authority matrix for appropriateness, and ensure that only the authorized persons initiate SAFER expenditures.

Recording of Applications

2.187 We concluded that controls over summarization and recording of applications and reapplications provide a high level of assurance.

2.188 We found that the batching, logging and balancing procedures provide assurance that all documents submitted to Elan and BCSC have been processed, and that monthly rent amounts shown on the documents submitted are accurately processed. The current batch balancing procedures could be extended to include a total income amount per batch.

2.189 The SAFER processing program routines perform a number of edit checks which provide a reasonable degree of assurance that transactions are completely and accurately processed. The current informal procedures for correcting edit and other errors could be improved by using the batch register to incorporate edit and other error logging information and details of resubmissions.

Processing of Changes

2.190 We concluded that controls over verification and recording of changes affecting eligibility and entitlement to receive SAFER benefits provide moderate assurance.

2.191 A number of strengths and weaknesses noted above also apply to changes. Only issues specifically relating to changes are noted here.

2.192 The adjudicators review all reported changes for reasonableness. Changes which reduce the applicant's income amount and thus increase benefits are reviewed and approved before they are processed. Also, retroactive increases in benefits as a result of changes are limited to one month, reducing the risk of large overpayments.

2.193 The Ministry accepts changes notified over the telephone although the SAFER Regulation requires that all changes be reported in writing by the client. Generally, no documentation is required to support the validity of the changes.

2.194 **We recommended** that the Ministry comply with the Regulation.

Payment of Grants

2.195 We concluded that controls over calculation, authorization and payment of SAFER benefits provide moderate assurance.

2.196 The maximum rent claimable and the minimum income that is deemed to have been received by the applicant limits monthly benefits to predetermined amounts. While the benefit amounts are calculated by a programmed procedure and there is adequate segregation of duties, there is no regular, independent check of the integrity of the master file data which is used to calculate monthly benefit amounts. Thus, invalid payments may be made.

2.197 **We recommended** reconciliation of the number of active clients between reporting periods and regular comparison of master file data with client files.

2.198 We also noted that the adjudicators do not have delegated payment authority, but still requisition payments. As a result, the Ministry's financial signing authority policies are not being complied with.

2.199 **We recommended** that the Ministry review its payment authority matrix for appropriateness, and ensure that only the authorized persons requisition payments.

Accounting for Payments

2.200 We concluded that controls over accounting for SAFER payments provide high assurance.

2.201 An authorized person approves monthly journal vouchers and cheque requisitions based on a review of supporting documentation. Also, the SAFER expenditure account transactions recorded in the Government's central accounting system are reconciled monthly to input documents to ensure their accuracy and completeness.

Ministry of Forests and Lands: Small Business Enterprise Program — Revenue System

Purpose of the Review

2.202 The purpose of our review was to determine whether the internal controls in the revenue system of the Small Business Enterprise Program provide reasonable assurance that:

- Rights to timber under the Small Business Enterprise Program are sold, at the most favorable price, only to qualified operators in accordance with the *Forest Act*, regulations and Ministry policies.
- The correct rates are billed to operators.

Conclusion

2.203 Overall, we found that the internal controls in the Revenue system of the Small Business Enterprise Program were reasonable with the exception of a significant weakness in control over billing of the correct rate to operators. Our assessment of the level of assurance provided by the internal controls, by function, is as follows:

• Verification and approval of applications	Moderate
• Sale of timber rights to qualified operators	High
• Billing of the correct rates to operators	Low

2.204 We recognize that the Ministry is in the process of making changes to the program. It is important, therefore, that management continue to be aware of the need for ongoing review and strengthening of internal controls in conjunction with changes which may be considered.

Background

2.205 The Small Business Enterprise Program commenced with the passage of the *Forest Act* in 1979. According to the Ministry the objectives of the program are as follows:

- to invite new entrants, through a registration process, into a program that would allow the acquisition of Crown timber by competition,
- to introduce into the forest industry a diversity of sizes and types of productive enterprises, and thereby, add resilience and vigor to the industry, and
- spur production efficiency through its competitive structure.

2.206 The Ministry designates stands of timber available for logging under the program. The sales of these stands are made on a competitive basis, with the sale being

awarded to the bidder of the largest bonus in addition to the regular stumpage. The bonus bid revenue is directed to a special Small Business Enterprise Account which is used to fund the program's activities, such as road building, silviculture and other forest management activities. A successful bidder does not obtain long-term tenure rights to the stand but only the right to log the stand on a one-time basis.

2.207 The program is widely decentralized and is delivered through the six Forest Regional offices and 46 Forest District offices of the Ministry.

2.208 The revenue of the program has grown from $7.7 million in 1981 to a projected revenue of $38 million for the fiscal year ending 31 March 1988.

Scope of the Review

2.209 We concentrated our review on the unique aspects of the revenue system of the Small Business Enterprise Program, which is a sub-system of the Ministry's principal revenue system, the Harvest Data Base System.

2.210 We did not review internal controls in the scaling process nor the controls in the Harvest Data Base System. The Harvest Data Base System generates stumpage invoices based on scaling data and stumpage rates determined through an appraisal process. We also excluded the accounts receivable function from our review.

2.211 In addition to Victoria Headquarters, we visited several Forest Regions and Forest Districts of the Ministry which we considered to be representative of the administration and delivery of the program. Our review of the system was at 31 December 1987.

Findings

Verification and Approval of Applications

2.212 We concluded that internal controls provide a moderate level of assurance that only qualified operators are allowed to register in the program.

2.213 Operators who wish to register in the program submit an application. The Ministry reviews the application to determine whether the operator is eligible, as specified by regulations to the *Forest Act* and Ministry policies, and to ensure that it is complete and has been notarized. If the application is approved, the operator becomes eligible to bid on timber sale licenses.

2.214 We found that adequate controls exist to ensure that all applications are properly reviewed and approved. However, we noted sufficient deviations, at the District offices visited, to conclude that these controls were not being applied consistently.

Sale of Timber Rights to Qualified Operators

2.215 We concluded that internal controls provide a high level of assurance that the rights to timber under the program are sold, at the most favorable price, only to qualified operators, in accordance with legislation and the Ministry's policies.

2.216 Following the overall allocation of timber cut to the program, Regions and Districts designate specific stands of timber for sale. The proposed sale of timber rights is advertised in the B.C. Gazette and in local newspapers. Details of the timber stands for sale are made available to the operators interested in bidding.

2.217 The Ministry sells these rights either by sealed tender or by public auction. The eligibility of each operator is determined prior to the sale. Operators are required to submit a declaration form, stating that they are eligible to bid for a timber sale license. A small business operator is only allowed to hold two active timber sale licences under the program.

2.218 We found the following controls in the system:

- All proposed timber sale rights under the Small Business Enterprise Program are adequately advertised.
- Only eligible operators are allowed to bid on a timber sale under the program.
- A security deposit is required to be furnished by each operator prior to the awarding of a timber sale license.
- At least two Ministry officials attend the opening of sealed tenders and public auctions.

Billing of the Correct Rates to Operators

2.219 We concluded that controls provide a low level of assurance that operators are billed the correct stumpage rates for the harvesting of timber sold under the program.

2.220 The successful bidder is assigned a license number and a timber mark prior to harvesting the timber. The timber sale license details are entered into the Harvest Data Base System on a computer input form which shows the stumpage rate to be charged. The stumpage rate is a combination of the regular stumpage, determined by the appraisal process, and the bonus bid, which is the amount, in dollars per cubic metre, bid in excess of the regular stumpage rate. The combined stumpage rate is used to generate billings to operators when the volumes of timber harvested are received from the scaling sites.

2.221 The computer input forms are not reviewed and approved prior to processing. This could result in incorrect amount of stumpage being charged to operators when harvesting commences.

2.222 **We recommended** to the Ministry that the computer input forms be reviewed and approved by the appropriate personnel and evidence of this review be recorded on those forms.

Ministry of Health: Vital Statistics Division Revenue System

Purpose of the Review

2.223 The purpose of our review was to determine whether the internal controls in the Vital Statistics Division revenue system provide reasonable assurance that:

- Birth, death and marriage certificates are issued only in accordance with the relevant legislation.
- Fees for all certificates issued are charged at the correct rates.
- Fees are collected for all certificates issued, and are completely and promptly deposited.
- Revenue transactions are processed accurately and completely.

Conclusion

2.224 Management has established good controls over most aspects of the Vital Statistics Division revenue system. However, these strengths are partly offset by weaknesses in certain cash reconciliation procedures.

2.225 Our assessment of the level of assurance provided by the controls in the areas described above is as follows:

• Issue of certificates	High
• Charging of fees	High
• Collection and deposit of fees	Moderate
• Recording of revenue	High

Background

2.226 The Vital Statistics Division of the Ministry of Health administers the following statutes:

- the Vital Statistics Act
- the Marriage Act
- the Name Act
- the Wills Act (Part Two only)

2.227 Its role in connection with these Acts consists mainly of recording and maintaining information relating to the subject events, and issuing certificates attesting to facts associated with the events. Fees are charged for the issue of certificates and the performance of searches.

2.228 Revenue earned by the Division during the year ended 31 March 1987 was as follows:

Birth certificates	$1,464,000
Will searches and death certificates	704,000
Marriage certificates	565,000
Amendments and name changes	142,000
	$2,875,000

2.229 Of these revenues, some $500,000 was collected by district registrars and remitted to Treasury by government agents. In addition, approximately $400,000 was collected through the Vancouver office of the Division. The balance of $2 million was collected at the head office in Victoria.

Scope of the Review

2.230 We restricted our review to the system for processing revenues at the Division's headquarters in Victoria, where 70% of the Division's total revenues are processed. We did not review the revenue system at the Division's Vancouver location or at the government agencies throughout the Province, nor did we examine the controls designed to ensure that vital statistics events are updated and maintained on the database completely and accurately. Our review was made as at 31 December 1987.

Findings

Issue of Certificates

2.231 We concluded that internal controls provide a high level of assurance that statutory requirements are complied with.

2.232 All services provided by the Division, and the applicable fees thereon, are clearly authorized by legislation. The eligibility of applicants is verified, where appropriate, prior to service being provided.

Charging of Fees

2.233 Controls over the proper charging of fees provide a high level of assurance.

2.234 Fee schedules are adequately documented and are accessible to all service applicants. Procedures are in place to ensure that the correct fees have been charged before services are provided.

Collection and Deposit of Fees

2.235 We concluded that controls offer a moderate degree of assurance in this area.

2.236 Effective procedures are in place to control cash at the point of receipt and to provide adequate physical security to the time of deposit. Control logs are kept to monitor licence inventories, and batching procedures are used to reconcile certificates produced with those requisitioned.

2.237 We found, however, that the balancing of cash to the cash register tapes is not verified by an individual other than the cashier. We also observed that there is no independent check to ensure that the cash register tape totals agree with the daily deposit slip (Form M). As a result, discrepancies between the cash register tapes and the amounts deposited may not be reported and resolved.

2.238 **We recommended** that staff other than those directly responsible for handling cash receipts be assigned to independently verify cash balancing procedures.

Recording of Revenue

2.239 We concluded that the degree of assurance offered by internal control is high.

2.240 The Ministry's system of budgetary control and reporting requires the Division to account for variances between planned and actual revenues. The Division also ensures that cash received by the Provincial Treasury is correctly reported in the central accounting system.

2.241 At the time of our review, the Division did not compare the copy of the Form M receipted and returned by the Provincial Treasury with a record of what was sent to the Treasury. Since our review, the Division has implemented this procedure.

Regard for Economy and Efficiency in the Administration of Public Funds, and for Public Accountability

Regard for Economy and Efficiency in the Administration of Public Funds, and for Public Accountability

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Report Summaries

2.242 This year we are reporting the results of eight comprehensive audits. These audits consider how resources are managed rather than how they are accounted for in the Government's financial records. When conducting such audits, we assess both the manner in which resources are acquired and the way they are used. In addition, we assess whether legislators and the public have been given an adequate explanation of how the money and powers provided by the Legislature have been used by the Government and what has been accomplished with them.

2.243 The comprehensive audits that are reported this year were undertaken in two ministries, the Ministry of Education and the Ministry of Energy, Mines and Petroleum Resources.

2.244 Abstracts of our audit reports are included below. The complete reports follow.

2.245 We acknowledge the interest, cooperation and insight provided by management and staff of the ministries throughout our audits.

Ministry of Education

2.246 In 1988, the Province will provide over $1.6 billion for public school education. Its contribution to operating costs alone is over $1.5 billion, which makes this the Government's second largest expenditure program, exceeded only by its contributions to hospital operating costs.

2.247 The education system is complicated by the number of players involved. The Ministry of Education provides overall leadership and direction. However, 75 school districts actually own and manage the 1,500 public schools in the Province, where services are delivered by 28,000 teachers to 500,000 students.

2.248 In our comprehensive audit of the Ministry of Education, we did not look at how school districts are managed or how teachers conduct their classes. Nor did we look at independent schools. Rather, we focused on the roles of the Ministry in public school education. We broke those roles down into four major elements: *expectations, resources, evaluation* and *reporting*.

2.249 *Expectations* involves setting the broad goals of the system. It includes providing school districts with a clear idea of what their students should be achieving.

2.250 *Resources* entails identifying the funds needed to achieve expectations, and distributing them equitably among school districts.

2.251 *Evaluation* includes monitoring performance to see whether school districts actually achieved the expected results with the funds provided. It also involves monitoring student achievement province-wide, and judging the effectiveness of the Ministry's leadership and guidance of the system.

2.252 *Reporting* provides the Legislature and public with the information they need to judge the performance of the public school system. Given the monies spent on education, the Legislature and public have a right to know how those funds were spent, and what results were achieved with them.

2.253 Our comprehensive audit of the Ministry of Education comprised four distinct projects, which are reported separately in this section of our Annual Report: Funding, Special Education, Facilities and Curriculum.

2.254 The Funding report examines the way the Ministry calculates the operating funds required by school districts to provide a quality basic education. We concluded that the Ministry is unable to control these costs fully with present policies, practices and legislation.

2.255 The Special Education report assesses the way the Ministry controls the funding of special education programs, measures the value obtained from those funds, and tells the Legislature and public about both the costs and benefits of special education. We found that the costs of special education are reasonably well controlled. However, this may not be clear to legislators or the public because of the Ministry's confusing way of reporting costs. We also found that the Ministry is beginning to find ways of judging the benefit produced by special education programs, but that it does not yet have enough of this information.

2.256 Facilities focuses on the capital side — the monies required to build, operate and maintain school buildings. In this report, we note that the things the Ministry is doing, it is doing well. However, it is not doing all of the things that need to be done to ensure school buildings are well managed.

2.257 Finally, we look at the way the Ministry designs the provincial curriculum. Our audit also examines the things the Ministry does to ensure that teachers can deliver the curriculum in the classroom, and most importantly, that students learn it as intended. We found that the Ministry designs curriculum economically, but that it could be more timely and efficient in doing so. We also concluded that the process for implementing new curriculum does not ensure all teachers will be able to deliver it as intended. In addition, the Ministry does not have sufficient information to know whether students actually learn from it.

2.258 Taken together, these reports provide a comprehensive assessment of the important roles of the Ministry of Education in the British Columbia public school system. Evaluation and reporting are major themes in all four reports. Expectations are also touched on in all of our reports, but this element of the Ministry's role is dealt with in more detail in the Funding and Curriculum reports. Resources is the central topic of the Funding and Facilities reports.

2.259 These reports provide our view of where the Ministry was at the time of our audit, and of the future directions necessary to ensure greater value is achieved from the money spent on education.

Ministry of Energy, Mines and Petroleum Resources

2.260 The Ministry of Energy, Mines and Petroleum Resources is a small ministry with a staff of 300 and a budget of $33 million. However it has responsibility for industries that produced over $4 billion of minerals, oil and gas in 1987, and contributed approximately $250 million in natural resource revenue to the Province.

2.261 The Ministry manages the Province's energy, mineral and petroleum resources, balancing provincial goals for economic growth, resource conservation, resource revenue, public and worker safety, and environmental protection. Our audit assessed how well the ministry was organized to fulfill its responsibility, and also assessed the administration of three specific areas of the ministry: petroleum industry regulation, gas royalty collection, and mines inspection.

Organization Structure

2.262 At the time of our audit the Ministry had a separate division for each of its three main industries: energy, mining, and petroleum. Within each division, branches were organized by technical specialty. An administrative support division served all three operating divisions.

2.263 We undertook our audit to assess whether the Ministry was organized to provide services effectively and efficiently.

2.264 We concluded that the basic organization structure of the Ministry was sound, however it could be more effective with some realignment and better integration.

Natural Gas Royalty Revenue

2.265 Provincial revenues from natural gas royalties have ranged from $50 to $250 million over the last ten years. Two years ago, the system for determining and collecting royalties was changed and responsibility for it assigned to the Ministry from the British Columbia Petroleum Corporation.

2.266 We undertook our audit to assess whether the Ministry is determining and collecting the correct gas royalty in a timely and efficient manner.

2.267 We concluded that the Ministry does not ensure that the correct gas royalty is determined and collected because of problems in royalty administration.

Petroleum Resources Division

2.268 This division of 53 staff regulates all aspects of oil and natural gas production in British Columbia, an $800 million business in 1987. The British Columbia industry

is located mainly in the Peace River area, where the Division maintains a field office.

2.269 We conducted our audit to assess how well the Division was being managed.

2.270 We concluded that although management were technically expert in the industry and working to fulfill the Division's responsibilities, the Division was not meeting its full mandate. This situation has arisen within the last few years, primarily because management did not plan and define clear priorities in light of new demands and stable or declining staff levels.

Mineral Resources Division, Engineering and Inspection Branch

2.271 This Branch regulates the mining industry in British Columbia with a main focus on safe work sites. Public safety and environmental protection are also considered.

2.272 We conducted our audit to determine whether the Branch is economically and efficiently fulfilling its responsibilities, and is providing a proper accounting to the Legislature and public for its results.

2.273 We concluded that the Branch does an adequate number of inspections of operating mines. However the nature and extent of the Branch's work on other responsibilities, such as inspection of sand and gravel pits, safety of abandoned mines, and control of pollution caused by acid mine drainage, is not sufficient.

2.274 We believe the Branch has to better focus its activities, and also improve its economy and efficiency, and its accountability reporting.

Ministry of Education: Funding

Audit Purpose

2.275 The Ministry of Education provides school districts with the funds it believes are required to provide a quality basic education. Our audit examined how the Ministry calculates these costs; how it ensures that districts actually achieve the results expected with those funds; and whether the Ministry provides the Legislative Assembly and the public with the information they need to judge the cost-effectiveness of public school education.

2.276 We focused on public school operating costs. We did not look at capital budgets or grants to independent schools, nor at how school districts develop their operating budgets. Rather, we concentrated on the Ministry of Education's role in determining the appropriate provincial share of public school educational costs.

Overall Conclusion

2.277 We found that with present policies, practices and legislation, the Ministry cannot fully control the costs of a quality basic education.

2.278 The current financing system appears to be equitable, but it has two significant weaknesses. First, most costs are based on the costs actually incurred by the school districts, rather than on the costs that the Ministry believes would be incurred by a cost-effective district. At the time of our audit the Ministry had established standard costs in a limited number of areas. There were, however, three major areas in which there were no standard costs: teacher salaries, operating and maintenance costs, and transportation. More importantly, the method used is based on the services that the Ministry believes are required to deliver a quality basic education. There is no demonstrated link between the delivery of these services and the educational results that they should achieve. Educational research in this area has been contradictory and inconclusive.

2.279 Without this link to expected results, the Ministry cannot be sure that appropriate funds are provided for education. As well, districts do not have a complete definition of what they are expected to achieve with the funds provided, and it is subsequently difficult for the Ministry to determine whether district results are up to standard. Consequently, the Ministry is unable to provide the Legislative Assembly and the public with all the information they need to judge the cost-effectiveness of public school education.

The Need for Change

2.280 The Province's contribution to public school operating costs is its second largest expenditure program, exceeded only by contributions to hospital operating costs. For the 1988 school year, the Province will contribute $1,536 million toward total school district operating budgets of $1,895 million. The remaining $359 million is raised through residential property taxes and other revenue sources including the federal government (see Exhibit 1). Fourteen cents of every dollar the provincial government spends is for public school operating costs. The size of the program demands that an effective system be in place to support the need for the expenditures and to report on the results achieved.

Exhibit 1

OPERATING BUDGET FUNDING SOURCES

1987/88 School Year
(in millions)

	Total	Provided by Province	Provided by District Taxpayers	Provided by Other Sources
Shareable budget set by Ministry	$1,626	$1,149	$415	$62
Homeowner grants	—	281	(281)	—
Pension costs and texts	106	106	—	—
Supplementary amount	163	—	129	34
	$1,895	$1,536	$263	$96

2.281 The financing system now in place is a recent development. It is the result of government initiatives in the early 1980s to establish control over rapidly increasing public school expenditures. From 1976 to 1981, the number of pupils in the public school system fell by 6.3% and the number of teachers rose by 4.6%. Overall operating expenditures rose by 76% while the cost of living index rose by only 55%. Increasing costs and more teachers serving fewer pupils drove up per-pupil operating costs, adjusted for inflation, by 21%.

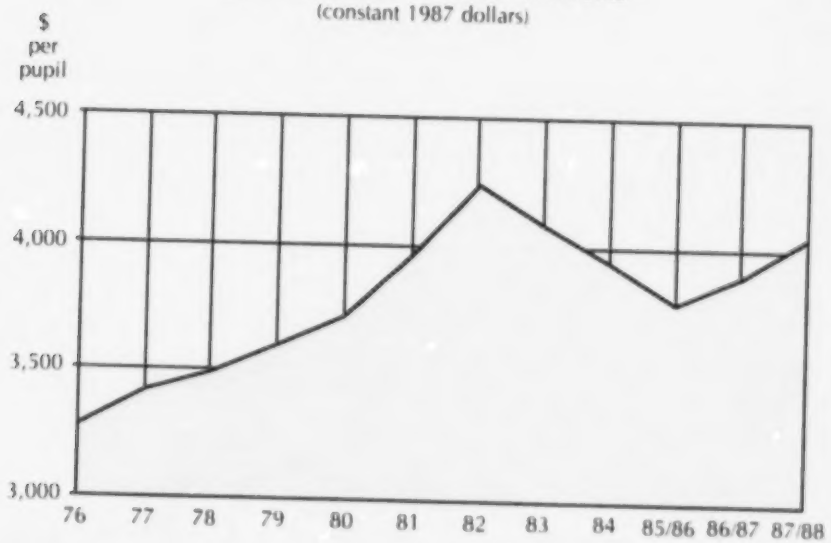
2.282 During that time, school districts did not necessarily develop their budgets in relation to standards of service. Rather, budgets were based on prior year costs. Under the system then in place, the government was obliged to provide its share of funding for budget requests even though it had no part in developing them. The government recognized that it needed to have a greater role in determining what funds it had to provide to districts. A new financing structure was needed. Ministry staff developed a new financing system that would identify the relationships between the costs and resources in the system. This system is now in use. The key elements are the fiscal framework, which determines the shareable budget, and the funding formula, which determines the size of the provincial grant.

2.283 The new system managed to control increases in operating expenditures in the short term. From 1982 to 1985, per-pupil costs rose only 1.1%. This was accomplished largely by adjusting actual service levels to levels closer to provincial targets. Adjusted for inflation, the 1985 costs were slightly higher than the 1976 costs (see Exhibit 2). A policy change in 1986 allowed districts to raise supplementary amounts through local property taxes. Per-pupil budgets increased 14% between 1985 and 1987. However, the provincial government did not share most of that increase: instead supplementary amounts met 70% of the increased costs.

Exhibit 2

GROSS OPERATING BUDGETS PER PUPIL

(constant 1987 dollars)



Providing Sufficient Funds for Education

2.284 Much of the attention given education tends to focus on one issue: *Is enough money being provided?* The question is stated too simply to have only one right answer. In fact, it begs another question: *Enough money for what purpose?*

2.285 To answer these questions accurately, the Ministry must identify the goals of the education system. It must also have a way to measure whether those expectations have been achieved, and to determine whether any variances that might occur can be attributed to funding levels. If the goals are not being met, a lack of money may not be the reason. Other problems, such as weak management, poor resource use, or misunderstanding of goals and objectives, could be to blame. Additional monies will not necessarily solve these problems.

2.286 The financing system has two major components — the fiscal framework and the funding formula. The fiscal framework sets the "shareable budget". Its goal is to identify the funds required to provide a "quality basic education" in an equitable manner, so that funds are distributed fairly among school districts. The funding formula determines the portions of the shareable budget that will be contributed by the province and by the school districts. Its goal is to ensure that taxpayers contribute on an equitable basis.

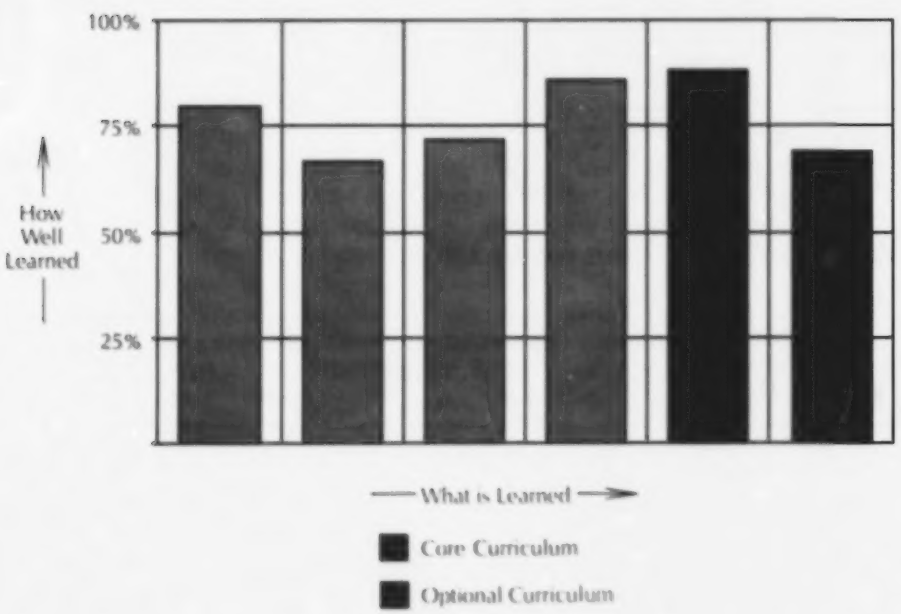
Defining a Quality Basic Education

2.287 The Ministry defines what it means by a quality basic education in terms of inputs. Thus, it sets measures like class sizes, pupil-teacher ratios and costs per pupil, and implies that these resource inputs should result in a quality basic education. However, these measures are at best intermediate indicators that do not necessarily relate to student achievement.

2.288 A quality basic education could also be defined in terms of outputs, or expected student learning. As shown in Exhibit 3, student learning has two dimensions: *what* is learned, and *how well* those things are learned.

Exhibit 3

STUDENT LEARNING



2.289 The Ministry sets the provincial curriculum, and thus defines the subjects that should be taught, or *what* should be learned. It has not, however, set desired achievement levels for the various subjects, which would define *how well* they should be learned. Similarly, although it measures results such as graduation rates and dropout rates, it has not set any targets for these educational outputs. Without these kinds of student outcome-related targets, the Ministry's definition of a quality basic education is incomplete.

Determining the Costs of a Quality Basic Education

2.290 The Ministry developed its financial model, called the fiscal framework, to determine the costs of a quality basic education. Simply stated, the fiscal framework multiplies units of input, called service levels, by costs per unit, called cost factors, to yield the shareable budget.

Service Levels

2.291 Service levels define the type and amount of services (teachers, materials and so on) that the Ministry believes are needed to deliver a quality basic education. They are based on student populations in the district, broken down between elementary and secondary grades. Separate service levels are set for students with special needs, and service levels are adjusted to reflect differences between districts. For example, depending on the size of the school district, the Ministry's defined service level for secondary school instruction ranges from one teacher for every 22 pupils to one for every 24.

2.292 Instead of providing funds for the service levels the districts wish to provide, the fiscal framework funds only to the level that the Ministry believes is appropriate. When the fiscal framework was introduced in 1982, there was a great deal of controversy around the use of standard service levels.

2.293 Each year, the fiscal framework is reviewed by a committee of district superintendents and secretary treasurers. They identify elements of the framework that they believe require adjustment or correction, and recommend changes to the Minister. In recent years, this committee has not raised many significant concerns about the service levels.

2.294 The use of standard service levels has brought greater control over provincial funding for education. Districts can still challenge the basic service levels established, and they can and do provide higher levels of service if they wish. However, the Province no longer shares in the funding of service levels above what the Ministry believes is required for a quality basic education. Such funds are raised entirely through local property taxes.

2.295 Although we did not review the service levels themselves, we noted a possible problem in the way the Ministry calculates them. As mentioned above, service levels are based on student populations. We found that the student population used to calculate service levels is based on student enrollment at one point in time only: September 30. If a school district's enrollment changed any time after the first month of the school year, its service levels, and hence its funding, would not be adjusted. The *Education (Interim) Finance Act* requires school districts to submit enrollment figures for January 31 as well as September 30. The Ministry does not ensure that January 31 enrollment figures are submitted, nor does it adjust funding to reflect changes in enrollment.

Cost Factors

2.296 For each service level identified in the fiscal framework, there is a cost factor. We found significant problems with these factors.

2.297 Unlike its approach to establishing service levels, the Ministry has not established standard cost factors. Instead, the provincial share of funding for teacher salaries, which make up about $1 billion of the cost of a quality basic education, and school building operating costs, which add another $250 million, is based on the actual costs incurred by the districts. Therefore, a district that negotiates higher than average teacher salaries is able to pass most of the additional costs on to the Province. Accordingly, the incentive for a district to manage its costs is reduced. Whatever the actual costs are, the Ministry includes them in its calculation of the costs of a quality basic education. We believe standard cost factors are required to provide the districts with incentives to manage well, and the Ministry with better controls over the costs.

A Standard Cost Model

2.298 The fiscal framework used by the Ministry correctly recognizes service levels and cost factors as the two dimensions of the cost of education. However, not all of these costs would necessarily be included in the costs of a quality basic education. Some districts may choose to provide higher service levels, or to pay more for those services, and thus incur greater costs than those that would be required to deliver a quality basic education. This is shown graphically in Exhibit 4.

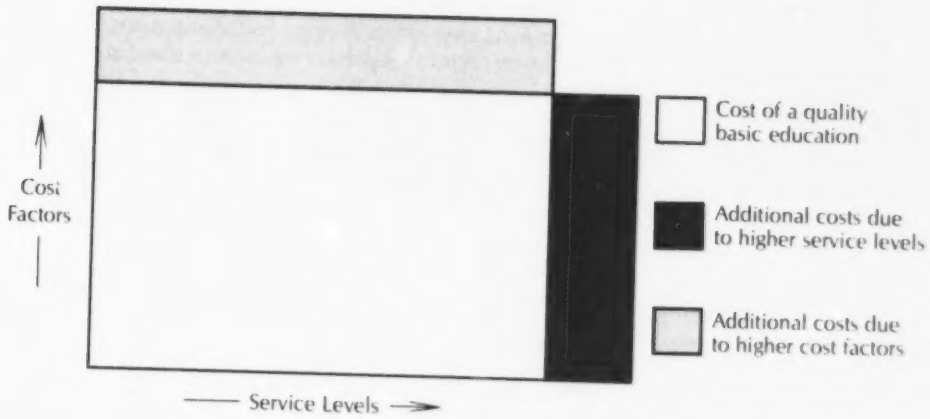
2.299 As already noted, the Province no longer shares in the costs of providing levels of service higher than the Ministry believes appropriate to deliver a quality basic education.

Problems with the Present Model

2.300 The major problem with the present financing model is that it is not linked to the educational results that the province expects to receive. In other words, there is no direct relationship between the graphs in Exhibit 3 and Exhibit 4.

Exhibit 4

COSTS OF EDUCATION


Cost Factors
Cost of a quality basic education
Additional costs due to higher service levels
Additional costs due to higher cost factors
Service Levels

2.301 Demonstrating a simple cause and effect relationship between, for example, class sizes and student achievement is difficult. Educational research in this area has been contradictory and inconclusive. Until a link to results can be demonstrated, neither the Ministry nor the school districts will be able to identify the effects of alternative levels of funding, or to demonstrate that appropriate funds are provided to achieve a quality basic education.

2.302 There are other problems with the present model. For instance, although the fiscal framework is supposed to be based on actual costs, the Ministry and school districts know of several cost factors, such as those for teacher salaries and curriculum implementation, that are out of date or unrealistic. In addition, although the Province does not share directly in funding amounts in excess of the fiscal framework amounts, some of these costs "creep" into the calculation of a quality basic education. For example, the Province shares in the pension costs for all teachers, even if the districts employ more teachers than called for by the fiscal framework.

2.303 These kinds of problems have led to disputes between the Ministry and districts, and to the increasingly common view that the model is only a means of distributing funds, rather than a means of determining what funds are required to provide a quality basic education. At the same time, they can be fixed relatively easily, by adjusting the mechanisms of the calculations. Over the longer term, standard costs could solve these problems.

2.304 The Province established the Fund for Excellence in Education in 1986. Close to 70% of the amounts allocated to public schools from this fund have been used to pay for regular operating costs. Less than $50 million was designated for one-time, special projects such as computer labs. It is important to note that the majority of the Fund for Excellence did not involve one-time efforts. When the funding from this source ends in 1989, the operating costs will still exist. Furthermore, many of the special projects will involve future costs to keep the computers repaired and to buy computer supplies.

Determining the Province's Share

2.305 Once the costs of a quality basic education have been established, a funding formula determines the amount the Province will contribute and the amount each district's residential homeowners will contribute. The Ministry determines the provincial contribution based on the principle of ability to pay. We found the contribution was determined in an objective manner.

2.306 The provincial contribution ranges from 55% to 97% of the school district's shareable budget. This "budget sharing ratio" depends on the "wealth" of the district — that is, the assessed residential property values per pupil. This is a relative rather than an absolute measure that allows the Ministry to rank districts by their respective abilities to pay. Thus, the system assumes that there is a relationship between assessed property values and ability to pay.

2.307 In fact, few districts are at the minimum 55% budget sharing ratio. In 47 of the 75 school districts, the provincial share exceeded 80%. Province-wide, the overall provincial average share is 75%. This is consistent with one of the goals announced when the new system was introduced in 1982.

Monitoring Results

2.308 If half of the Province's educational financing task is figuring out how much is required to provide a quality basic education, then the other half is ensuring that it gets what it pays for. Did the Province get what it expected from its $1.5 billion contribution to educational costs?

2.309 We found that the Ministry can and does measure a number of educational results. However, since it has not fully defined what it means by a quality basic education, it is unable to put these measures into perspective. For example, although it can state that 70% of Grade 12 students graduate, it cannot say whether that graduation rate is less than, equal to, or greater than what it expected for the money provided.

2.310 We also found that the Ministry is in the midst of a fundamental role change. It is moving from a mode of closely monitoring school district activities and processes, to one of monitoring results only. In theory, this is a good model. It recognizes that

the most important matter is not how the districts actually spend the money, but what the districts achieve with that money.

2.311 Accordingly, school district budgets are established independently of the Ministry. School boards do not submit routine financial reports other than the year-end audited financial statements, which are not reviewed in detail.

2.312 This approach would be appropriate if the Ministry were able to monitor school district results. However, we are concerned because a comprehensive evaluation program is not yet in place to offset the reduction in the monitoring of activities. Initial attempts to establish the required evaluation program are just getting under way. Ministry staff are making efforts to improve the process, but they still have many hurdles to overcome. It is too soon to tell how successful their efforts will be. In the interim, we believe the Ministry should continue to monitor how districts actually spend their money.

Telling the Story

2.313 The Legislative Assembly and the public require accountability information to judge the performance of the public school system. The *School Act* requires the Ministry to prepare an annual report for this purpose, but only specifies that the report contain information about student populations, attendance and costs. These requirements fall short of adequately defining proper accountability information.

2.314 To its credit, the Ministry has moved beyond the level of reporting required by the Act. In recent years, it has made significant improvements to the information contained in its annual reports. However, further improvements are required before the Legislature and the public can assess the cost-effectiveness of education.

Looking Ahead

2.315 The Legislature should recognize that it would be unrealistic to expect that the information available to it can be any better than that which is available to the Ministry. Much of the missing or incomplete information can be supplied by the Ministry directly if it addresses the problems identified in this and our other comprehensive audit reports. Most of it, however, must be supplied indirectly. That is, the Ministry of Education requires proper accountability information from the school districts before it can provide proper accountability information about the school system.

Ministry of Education: Special Education

Audit Purpose

2.316 Local school boards provide most special education services, as they do regular education services. Our audit did not look at how the school boards run their special education programs. Instead, it looked at the important roles the Ministry of Education plays in making them successful. We looked at how well the Ministry does in three areas:

- *cost* — controlling the funding of special education programs;
- *value* — seeing what the programs achieve with the funding; and
- *reporting* — telling the Legislature and public about the cost and value of special education.

Overall Conclusion

2.317 The Ministry has a reasonable process for controlling the costs of special education. It does this by controlling the special need areas to be funded and by ensuring that only eligible students receive special services. In addition, it has reasonable methods for specifying how special education programs should be designed, staffed and managed, and it knows how much it actually costs districts to deliver these services.

2.318 The Ministry has not defined how much a cost effective district needs to deliver special education services, particularly in the area of teacher salaries. However, in our opinion, there is reasonable assurance that the costs are not out of control. This may not be clear to the public and the Legislature, however, because of the Ministry's confusing way of presenting cost information.

2.319 We found the Ministry is beginning to find ways of judging the benefit produced by special education programs and therefore does not yet have enough information about results.

2.320 In short, costs are reasonably controlled, but demonstrating cost-effectiveness still needs further attention.

Profile

2.321 The school districts are the major suppliers of special education services. The Ministry gives the districts help, advice, and leadership. It sets policy, and acts as liaison with other ministries involved in special education. Above all, it is steward of the public purse: it funds programs, monitors their operation, and reports on what it finds. Now that many districts have developed their own expertise, the Ministry is spending less time providing help, advice and leadership to districts, and more time in its stewardship role.

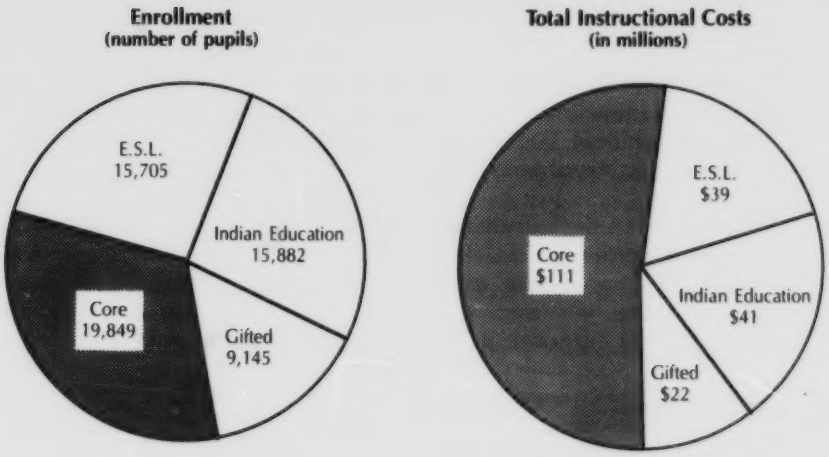
2.322 The Ministry includes four areas under special education. The first area is the core of special education. It consists of programs for pupils whose education is being handicapped by a physical, mental, or behavioural condition. The second area, gifted education, is related, in the sense that gifted pupils are hindered from developing their full potential, unless they have special programs.

2.323 The last two program areas are Indian education, and English as a Second Language (ESL). Indian education is a voluntary program for pupils of Indian ancestry. It includes courses in Indian language, culture, and history, and special assistance for pupils with learning difficulties. ESL is essentially immersion English, much like French immersion, except for people who do not speak English. The Ministry groups these two program areas in with the programs more generally considered as "special education" for convenience in administration and funding. This is important to know when comparing costs between provinces: other provinces do not include Indian education or ESL in special education.

2.324 Most of the thirteen per cent of B.C. public school pupils receiving special education services are not in the core programs. The biggest enrollments are in Indian education, ESL, and gifted programs. Of the total instructional costs for special education students, about half is for pupils in these programs, as shown in Exhibit 1.

Exhibit 1

SPECIAL EDUCATION PROGRAMS



Notes: "Total Instructional Costs" of $213 million is the shareable budget for special education students in B.C. public schools. It excludes $31 million of Ministry funding for special services for students not in regular classrooms (e.g. homebound, hospitalized or in legal custody).
"Core" is made up of mental, physical, and behavioural handicaps.

Source: Ministry of Education, Special Education Branch, "Comparison Regular and Special Programs Funding (1987/88) (preliminary enrollment)", November 1987.

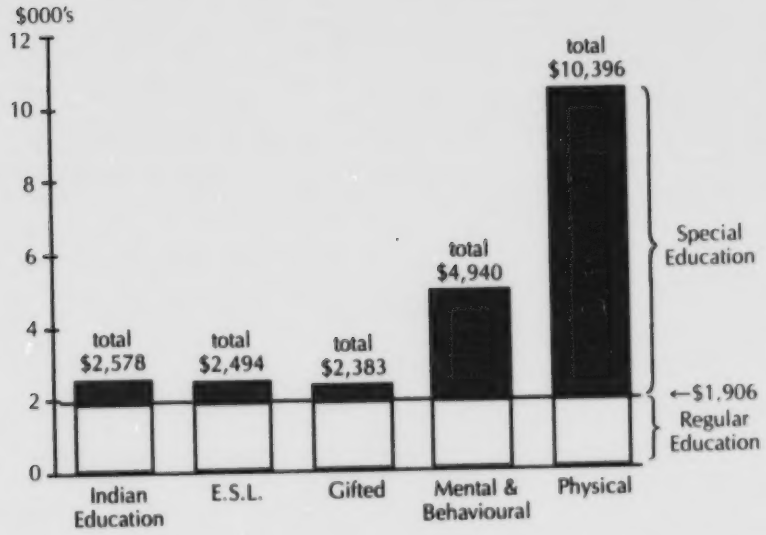
What the Numbers Mean

2.325 The cost data given above should be read with care. Total instructional costs are included, not just the cost of special education services. For example, in the current year 60,581 students are in special education programs; the budget for these programs is $213 million. However, the cost of regular instructional programs is $1,906 per pupil. Subtracting this regular education portion from the $213 million leaves a special education portion of $97 million. In other words, less than half of the money spent on instructing special education *students* goes to special education *services*.

2.326 This distinction is important for pupils in gifted, ESL, and Indian education programs. They spend most of their time in regular classes, but for administrative reasons all of their instructional costs are charged to special education. In fact, special education costs are small in proportion to regular education costs for pupils in these three programs, as shown in Exhibit 2.

Exhibit 2

INSTRUCTIONAL COSTS PER SPECIAL EDUCATION STUDENT



Notes: "Mental & Behavioural" includes Severe Learning Disabled
"Physical" includes Autistic
"Regular Education" is cost per pupil in regular English instructional program.

Source: Ministry of Education, Special Education Branch, "Comparison Regular and Special Programs Funding (1987/88) (preliminary enrolment)," November, 1987.

2.327 Exhibit 3 summarizes special education funding. As can be seen, only about a third ($73 million) is for the type of service that comes to many people's minds when they think of special education: special education services to students with physical, mental, or behavioural handicaps.

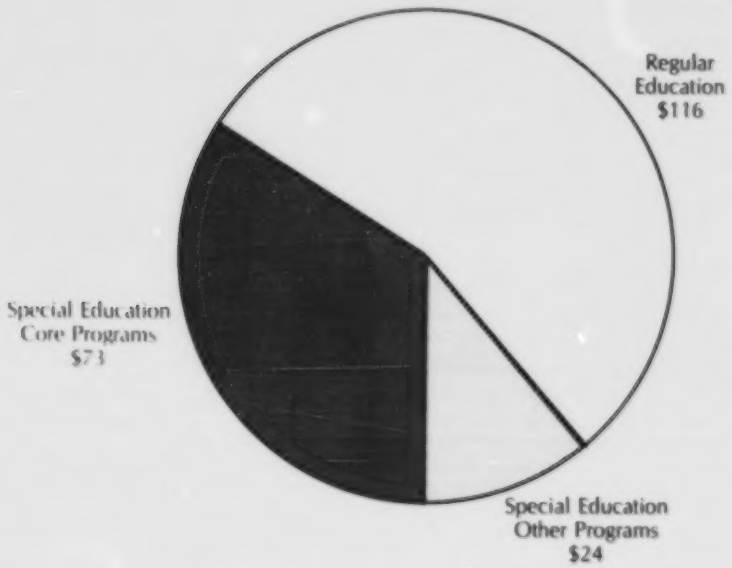
2.328 A further caution is that the Ministry reports "shareable budget" amounts. The shareable budget is the Ministry's judgement of the total funding a school district needs for all its programs. The Ministry breaks this total down to programs, including special education, but for calculation purposes only. Districts are allowed to spend more or less than the calculated amount on special education, at their own discretion.

2.329 The Ministry does not monitor the amounts actually spent on special education, so we are unable to report or comment on them. This is not to suggest that we believe the Ministry must monitor actual spending. In fact, we think this is unnecessary, so long as the Ministry can control the funds provided, and then evaluate the results achieved by students with special needs.

Exhibit 3

FUNDING FOR SPECIAL EDUCATION STUDENTS

(in millions)



Source: Ministry of Education, Special Education Branch, "Comparison Regular and Special Programs Funding (1987-88) (preliminary enrolment)", November 1987.

Controlling Costs

2.330 In controlling the costs of special education, the Ministry focuses on three questions:

- which special need areas it will fund;
- which students are eligible to receive service in a special need area; and
- what funding is needed for each student in a special need area.

We concluded that the Ministry has adequate controls over each area.

Funding the right areas

2.331 The special need areas the Ministry recognizes seem to match the range of needs being served by school districts. The districts have a committee which points out to the Ministry flaws in the school funding system. This committee has not requested changes in the special education classifications.

2.332 The categories British Columbia recognizes are similar to those recognized by other provinces, and by the U.S. federal government. The Ministry's expected incidence levels in these areas are also consistent with those in other jurisdictions. Accordingly, we concluded that the Ministry's funding categories are reasonable.

Funding the right students

2.333 A school district receives more provincial funding for a special education student than for a regular student. Problems which are more severe receive higher funding than those which are less severe. Therefore, there is some risk that districts might attempt to claim high cost services for a pupil who only needs lower cost help according to provincial standards. Districts might even report students as needing higher cost care than they actually receive, to get provincial funds to spend elsewhere in their system.

2.334 The Ministry has two different approaches to determining whether it is funding students only for the services they need. For higher-cost programs the Ministry specifies in detail the process for selecting pupils in need of the program. The Ministry's special education coordinators review student files when they visit districts to determine whether the students are properly classified. Also, when districts apply for funding, the Ministry scrutinizes the request, comparing this year's enrollments to prior years', and to expected incidence. These procedures provide effective control over classification of students in the higher-cost programs.

2.335 These higher-cost programs each serve relatively few students. In contrast, the four lower-cost programs, for learning difficulties and behavioural problems, have many more students. These programs are similar to each other in cost, and in the kind of students they serve. The Ministry has now grouped them together for funding, using a method called "block funding".

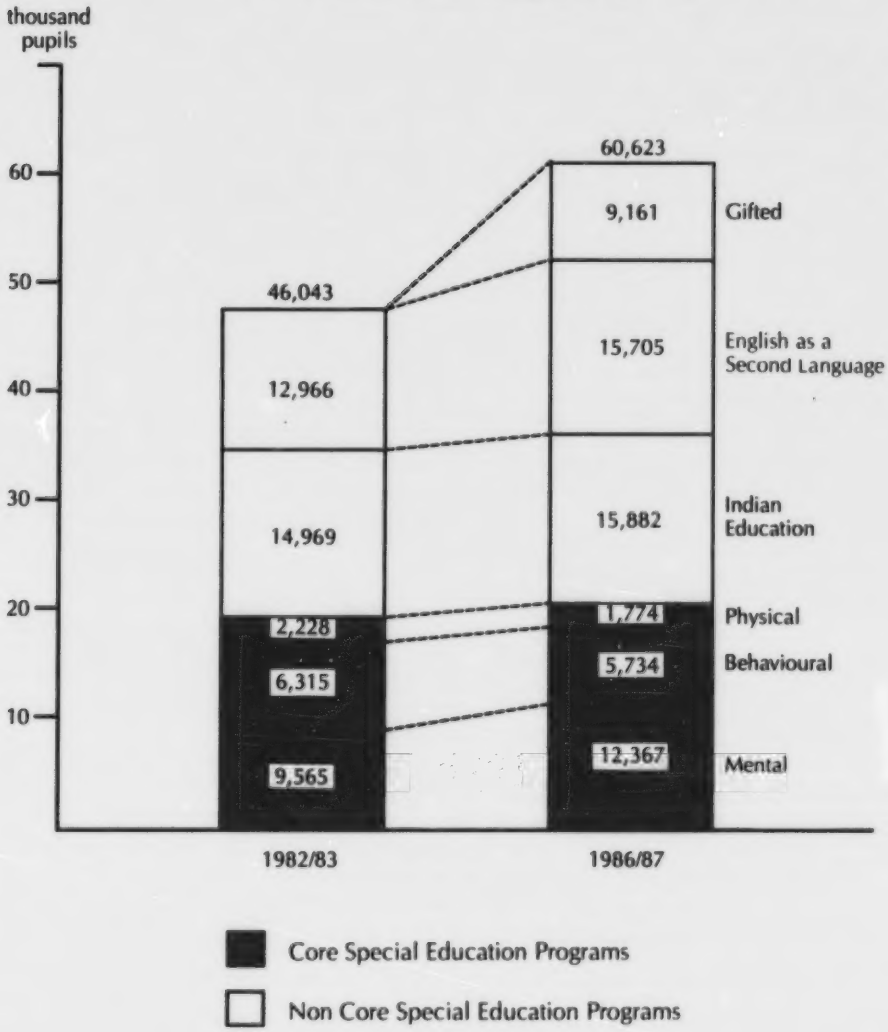
2.336 Under block funding, each district receives money based on the expected incidence of the special need in the Province. The actual number of pupils being served by the district does not affect its funding. Block funding allows the Ministry to decide, in advance of the school year, how much of its total funding will go to these special needs programs. For the other programs, its total funding depends on the actual enrollments that year.

2.337 We believe block funding is an appropriate method of calculating funding for high-enrollment, lower-cost areas.

2.338 Enrollments in core areas of special education have not increased rapidly in recent years. The Ministry's annual reports show only a 10% increase in core enrollment from the 1983 to 1987 fiscal years, as shown in Exhibit 4. During this same period total school enrollment in the province declined marginally. Some of the core enrollment increase results from including students who were not educated in regular schools before. However, most of the increase comes from providing more students with the services they need.

Exhibit 4

SPECIAL EDUCATION ENROLLMENTS



Note: "Mental" includes Severe Learning Disabled
"Physical" includes Autistic

Source: 1984/85 and 1986/87 Ministry of Education Annual Reports

2.339 In every special need classification where the Ministry has specified an expected incidence, actual enrollment is less than predicted. Enrollment has actually decreased in several high-cost areas. These facts lend support to our conclusion that the Ministry has adequate controls over enrollments in special need areas.

Funding the right costs

2.340 The Ministry's main control over cost is to specify the kind of program inputs it will fund. It hires coordinators, trained in special education, to aid it in this process. They use their own experience, information from existing programs, and information from professional literature to specify the inputs needed by a program. These specifications include the professional training that staff should have, and the number of pupils which each staff member can serve.

2.341 A two-step process is used to convert these specifications into a funding amount for each special need program in a district. First, a "service level" is established. This is a formula which specifies the staff resources needed for a given enrollment. Then, these staff requirements are multiplied by average salary costs in the district, to give the shareable budget amount. This process is similar to that used in regular education.

2.342 The Ministry determines the shareable budget based on actual costs: what various districts report they spend on a program. What it needs to know is standard costs: how much an efficient district needs to operate a program.

Conclusion on Costs

2.343 The Ministry has a reasonable method of defining what inputs should go into approved special education programs. Controlling the amounts paid for these inputs is subject to the same limitations as the regular education funding method.

Obtaining Value

2.344 The Ministry uses its specialist coordinators to review the special education programs it funds. The coordinators are borrowed from school districts on short-term contracts, and bring with them the experience they gained there. While with the Ministry they travel widely in the Province, observing and reporting on special education programs. They also keep up with the professional literature in their specialty, so they know about trends in other provinces and countries.

2.345 From all this information, the Ministry puts together specifications for special education programs. It gives school districts a handbook detailing, for example, teacher qualifications and program organization. Specialist teams from the Ministry visit the districts to inspect their programs and recommend improvement.

2.346 For the four block-funded programs, these specifications and recommendations are guidelines only. For every other program, districts do not receive funding unless they meet Ministry standards. However, these standards only specify program *inputs* (staffing levels, staff qualifications, organization, curriculum, etc.). This is good, but not enough. The Ministry is only now going beyond this, to look at *outputs* and determine how effective funded programs actually are.

2.347 The important measure of effectiveness is student performance: that is, what did students learn as a result of the program? The Ministry has recognized this, and is beginning to evaluate programs on their resulting student performance. Special education may be more ready than regular education for this approach. Students are already carefully evaluated in order to decide what programs will benefit them. The Ministry also recommends individual education plans for special education students; these lay out learning goals, and evaluate progress towards these goals. However, the wide range of abilities among special education students may make the mechanics of evaluation more difficult. In any case, program evaluations based on student performance are only beginning in the Ministry.

Conclusions on Value

2.348 The Ministry has a good system for determining whether the programs it funds follow professionally acceptable models. However, it is only beginning to look directly at student achievement resulting from these programs. We strongly recommend that it continue this new emphasis on cost-effectiveness. We suggest that the Ministry continue its scrutiny of inputs and processes until it has a workable output evaluation system.

Telling the Story

2.349 As indicated above under the heading "What the Numbers Mean", the Ministry has not done a good job of telling the public about the costs of special education. In addition, since it has not had results information, it has been unable to tell anyone about the benefits actually achieved. Accordingly, the Legislature and the public have not been given the information they need to judge the cost-effectiveness of special education services.

2.350 Programs such as special education can only be understood in context. An interested citizen or legislator needs to know not just what happened this year, but how that compares with prior years. The Ministry's public reporting has been weak in its presentation of such trend information.

2.351 The Ministry's annual reports only present this year's and last year's costs, but no longer-term trend information. Further, they do not make it clear that data in older reports are not comparable with current data. (The system now funds, and reports on, total instructional costs for special education students. Prior to 1983-84 the system funded, and reported on, actual special education costs.)

2.352 Changes in the funding system also affected information on enrollment trends. The old system did not track enrollments in the same way as the current system. To its credit, the Ministry has made an effort to report enrollment trends. Its most recent (1986-87) annual report gives a detailed presentation on enrollments over the past five years.

2.353 Although the Ministry has little information on the benefits of programs, it does track how well districts carry out the process of special education delivery. Little of this information is reported; it should be. Knowing, for example, how many districts have programs which meet Ministry standards, would give the Legislature some idea of how many students have the chance to benefit from the special services they need. Process information like this is useful, and should be reported until such time as true effectiveness information is available.

Looking Ahead

2.354 In the short term, the Legislature should expect better cost information from the Ministry. In the long term, it should expect better results information.

2.355 The Ministry can improve its reporting of cost information simply, by separating the cost of special education services from the other costs of educating pupils who receive special education services.

2.356 Getting better information on results is not as easy. Nonetheless, it is essential. What form should results information take? In the best of all possible worlds, a program's effects could be summarized in a single number, and comparing programs would be easy. At present, such single indicators do not exist. They will be difficult to produce, and early attempts may result in numbers that are misleading, or otherwise not useful. In the near term at least, results information will be a mixture of numerical indicators and detailed, written evaluations by experts. This kind of detailed description should provide enough information to enable a good start to be made on evaluating effectiveness.

Ministry of Education: Facilities

Audit Purpose

2.357 Our audit looked at how the Ministry of Education ensures that the money it provides to construct, operate and maintain schools is well spent. Specifically, we looked at the ways the Ministry:

- controls the funds provided to school districts for buildings and other facilities;
- ensures that value is received for these funds; and
- tells the Legislature and the public about the management of schools.

We did not review the operations of school districts.

Overall Conclusion

2.358 The Ministry of Education does a reasonable job of reviewing school district requests for both acquisitions and renovations of schools. As a result, it can provide reasonable assurance that construction takes place only where required and at a reasonable cost. However, because the Ministry does not collect information about existing schools, it cannot provide assurance that all necessary additions and renovations are made.

2.359 In 1987, $76 million was approved to construct new schools and to renovate existing ones. More than triple that amount, $263 million, was spent on operating the schools. We found that the Ministry does not adequately control the funds provided for the day-to-day operations of the schools. Further, the Ministry has not clearly defined what it expects school districts to accomplish with the funds that are provided, and it has no system for determining whether districts are, in fact, keeping their schools well maintained and fully used.

2.360 Without this information, the Ministry can neither tell the Legislature and the public whether capital assets are well managed nor forecast future funding needs.

The Costs of School Buildings

2.361 The 75 school districts in the province operate 1,540 public schools. The replacement cost of these buildings is $4.8 billion.

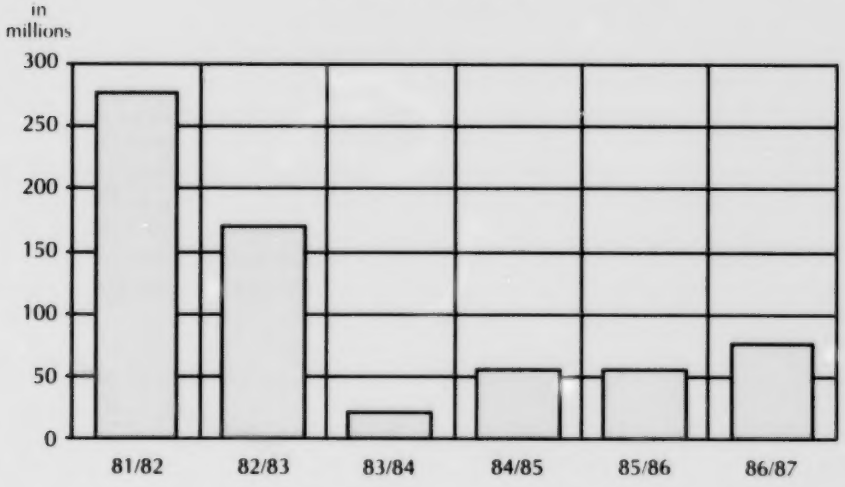
2.362 The costs of school buildings include construction costs and subsequent operating and maintenance costs. These costs are interrelated. A new building generates future operating costs that may be quite different for different kinds of buildings. Similarly, if a building is not maintained, it will lead to earlier replacement or major repairs. It is important, therefore, to consider the lifetime costs of schools.

2.363 In any given year, the amount allocated to construction and major repairs will vary depending upon the need and the Province's ability to pay. Capital approvals over the last five years are shown in Exhibit 1.

Exhibit 1

CAPITAL APPROVALS 1981–1987

(constant 1987 dollars)



Source: Ministry of Education Annual Report, 1986/87

2.364 The monies approved for new construction and major repairs do not result in an immediate expense, because they are borrowed and financed over a 20-year period. Thus, the amounts required to repay these debts vary with the level of prior years' approvals and the interest rates in those years.

2.365 In recent years, the day-to-day costs of operating schools have been much greater than either the amounts approved for new construction or the amounts required to pay for construction in prior years. These operating costs include janitorial services, utilities, and the maintenance of grounds, vehicles and equipment. Exhibit 2 shows operating costs for the last five years together with debt service charges for the same period.

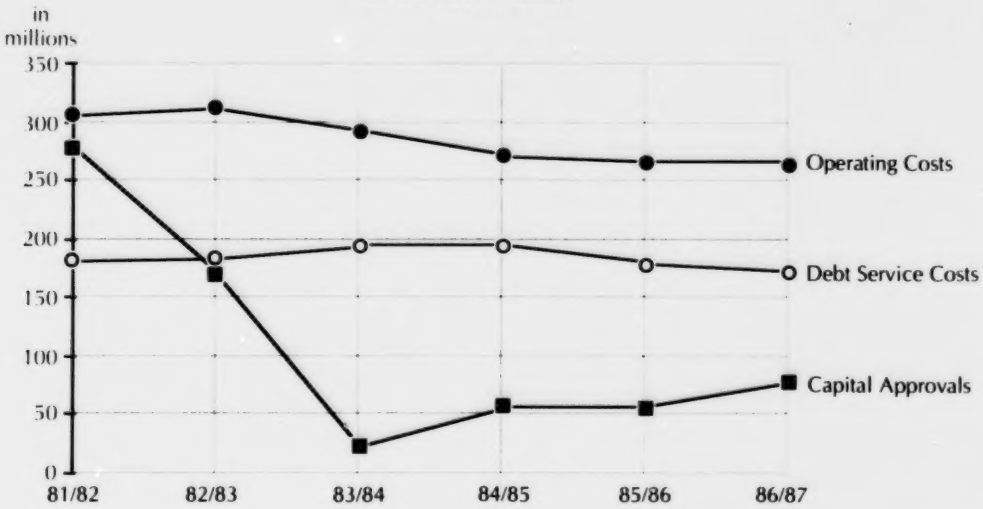
2.366 Operating and maintenance costs can be expected to exceed the costs of building new facilities whenever the infrastructure is sound and school populations are stable or declining. This is the case in British Columbia. Public school enrollments have been decreasing in recent years so that few schools have been built or closed each year.

2.367 The school districts actually own and manage the schools. However, the Province funds more than 80% of their operating costs and over 85% of the costs of repaying the debt on prior years' construction and major repairs.

Exhibit 2

COST OF SCHOOLS 1981–1987

(constant 1987 dollars)



Source: Ministry of Education, Annual Report

The Ministry's Role

2.368 The Ministry of Education, although it does not own or manage the schools in the Province, plays important roles in controlling school additions and closures, and in monitoring how well districts manage their schools. In addition, the Legislative Assembly and the public rely on the Ministry to provide the information they need to judge whether the right schools are maintained in the right locations, at the right costs.

Controlling Additions

2.369 Additions to school capacity include building new schools and adding on to existing schools. The Ministry, we found, is reactive in controlling these additions: it waits for school districts to request authorization for them. When requests are made, the Ministry deals with them efficiently and effectively. It has clear and specific criteria for making additions, and good procedures for ensuring these criteria are met.

2.370 The Ministry requires school districts to submit feasibility studies, architectural drawings and competitive bids to support their requests for new schools or additions to schools. All requests are based on projected student enrollments. The Ministry compares these projections to its own, and then ensures that the additional space being requested is acceptable in relation to projected numbers of students. Finally, the costs of construction are compared to an independent survey of recent construction prices.

2.371 One weakness in the process is that the Ministry usually considers the construction costs only. Because some kinds of buildings might be more expensive to operate and maintain than others, we believe it would make more sense to look at total costs over the useful life of the school. Recently, the Ministry has considered costs on this kind of life-cycle basis, but only for a few select projects. Nonetheless, we believe Ministry procedures are adequate to ensure that additions are made only when and where required and at a reasonable cost.

Controlling Disposals

2.372 The Ministry has good control over ensuring no needed school is closed: the school districts themselves request approval to close schools.

2.373 However, there is no procedure for ensuring that schools which are no longer needed are considered for closure. The Ministry does not monitor use of individual schools, and it has not established standards defining when a school should be considered for closure. The Ministry calculates an average use of 73% for all public schools in the Province. If some schools are fully-used, we can assume others must be well below the provincial average. Continued use of these schools may be uneconomic.

2.374 Many of the costs of owning and operating schools are fixed. The money borrowed to finance the school must be repaid and the grounds must be maintained whether there are 100 or 1,000 students attending that school. The costs per pupil, therefore, are higher if a school is underused. At some point, the school can not be economically justified. A standard for considering closure would define that point.

Monitoring District Management

2.375 The lifetime operating and maintenance costs of a school can exceed the cost of building it. School districts need to manage their schools in a manner that minimizes life-cycle costs. Since the Province ultimately pays most of the bill, the Ministry should be interested in how the districts maintain and operate their schools.

Maintaining Schools

2.376 The Ministry ensures districts maintain their schools in the same way that it controls additions and closures: reactively. It ensures that requests for roof repairs, for example, are supported by proper documentation, and it ranks these requests in order of priority according to clearly established criteria. Thus, the Ministry can ensure that repairs and maintenance are made only when required and at a reasonable cost.

2.377 In our view, there are three problems with the procedures outlined above. First, as with requests for new schools, the Ministry does not specifically consider life-cycle costs. For instance, if a school district wants money to insulate a building, the Ministry would not necessarily evaluate that request in relation to future savings in heating costs. The second problem is closely related. If a district request to insulate the school was approved, the Ministry would not adjust the amount it would otherwise have approved for heat or other operating costs.

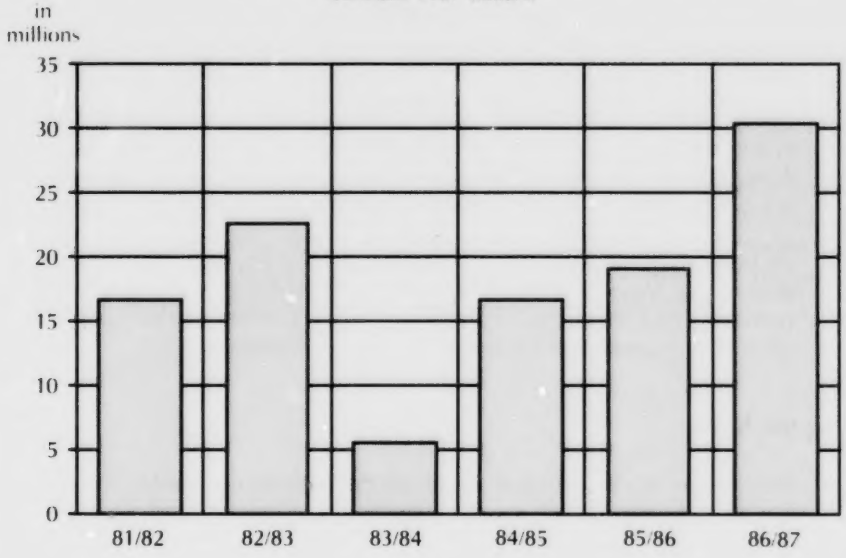
2.378 The third problem is the most important, however, and stems from the Ministry's reactive approach to maintenance. The Ministry does not know whether school districts are, in fact, maintaining their schools adequately. For example, it does not know when the school roofs were last replaced or what kind of roofs they are. In fact, it does not have complete and accurate information about the age or structural type of the buildings. Nor does it suggest preferred maintenance schedules, or know what kind of maintenance schedules the various districts use. Thus, the Ministry is unable to determine whether the infrastructure is being maintained, and it is unable to predict future maintenance costs.

2.379 There is some evidence to suggest that schools are not being maintained as well as they might be. With over 1,500 schools in the Province, one would expect roughly the same amounts to be spent from year to year, as repair needs are met in different schools in different years. For example, hot water tanks and boilers would be replaced in some schools one year, and in other schools in other years. However, as shown in Exhibit 3, the actual amounts approved for maintenance and repairs have fluctuated widely over the last five years.

Exhibit 3

MAINTENANCE APPROVALS 1981–1987

(constant 1987 dollars)



Source: Ministry of Education Annual Report, 1986/87

2.380 School districts have actually requested approximately the same amounts for maintenance from year to year, and these requests have invariably exceeded the amounts approved. Since the decision about what funds to approve for maintenance is political, a policy of deferring maintenance costs may be "right" in the sense that it is agreed to by society. However, if decision-makers are to set the funding level, and the Legislature and public are to judge whether the policy is "right", they need to know the financial implications of deferring or funding maintenance.

2.381 By not spending money on maintenance, costs are only deferred, not avoided. Over the long term, maintenance costs may be increased as a result of such deferral. The Ministry does not make any attempt to predict maintenance costs or to analyze the probable future effects of providing different levels of funding for facilities. Because it does not know about the present condition of most of the schools in the province, it cannot assess whether too much or too little is being spent to maintain them. Furthermore, the Ministry does not use school district

projections, current trends or other information to determine what schools will be needed in the future, and where they will be required. In short, it does not have the information needed to judge whether the right amounts are allocated to facilities.

Operating Costs

2.382 The Ministry provides school districts with funds for utilities, janitorial services, minor repairs and other day-to-day operating costs. This funding is based on a three-year running average of the districts' actual costs in prior years. Over a quarter of a billion dollars is spent each year to operate British Columbia's public schools.

2.383 We believe operating costs should be based on standard, rather than actual costs. At present, the Ministry funds district operations even if they are inefficient or uneconomic. As a result, there is little incentive for a school district to become more efficient or economic in the area of facilities operations.

Telling the Story

2.384 The Ministry has been unable to provide the Legislative Assembly and the public with the information they need to judge how well school districts have managed their facilities. This does not mean that districts are managing poorly; only that the Ministry does not know how well they are managed.

2.385 Although the Ministry receives enrollment figures and audited financial statements from each district, it does not compare costs between districts or otherwise try to measure performance. In any event, more information is required to judge whether the schools in place are appropriate to meet the current and future needs of the educational system.

2.386 As previously noted, the Ministry does not know about the present condition of schools in the province, except for a few where a school district has requested an addition or renovation. Similarly, the Ministry has not asked the districts for their facilities plans so the 75 individual plans might be consolidated into one for the Province. Indeed, the Ministry has not looked for evidence that districts have planned for their future needs.

Looking Ahead

2.387 Each year, the provincial government provides hundreds of millions of dollars to school districts to build, maintain and operate schools. The Legislature is entitled to assurance that this level of funding is appropriate and that the money is well spent.

2.388 In the instructional area, the Ministry has developed a funding formula to calculate a level of funding that it has concluded is sufficient to provide an adequate standard

of education in each school district. Each district is free to allocate these funds as it chooses, so long as it meets the Ministry's standards.

2.389 The Legislature should expect the Ministry to manage school facilities at least as well. To do this, the Ministry must specify what services it expects the school districts to provide, and what those services should cost. It must also monitor what school districts are actually providing and at what cost, and identify both the short- and long-term funding requirements of school facilities.

2.390 Until the Ministry is able to provide legislators and the public with better information about school maintenance and the condition of schools, they will not know whether, at current funding levels, the school infrastructure is being eroded, being enhanced, or being maintained in a consistent state. The answer to this question could have significant implications for taxpayers in the future.

Ministry of Education: Curriculum

Audit Purpose

2.391 We conducted our audit to determine whether the Ministry is designing and implementing curriculum in an economical and efficient manner. We looked at how the Ministry ensures the right curriculum is designed and introduced, and how it monitors the effectiveness of the curriculum.

Overall Conclusion

2.392 There are three aspects of curriculum: how it is designed, how it is taught, and how it is learned. We found that the Ministry designs curriculum economically, but it could be more timely and efficient in doing so. Although the Ministry has recently developed overall curriculum goals, it has not yet set standards that define a basic quality education. We also found that the process used to implement new curriculum does not assure that all teachers will be able to deliver the curriculum as intended. In addition, although the Ministry assesses learning in four grades, this does not provide sufficient information to assess properly the effect of the curriculum on the majority of students.

The Curriculum Development Cycle

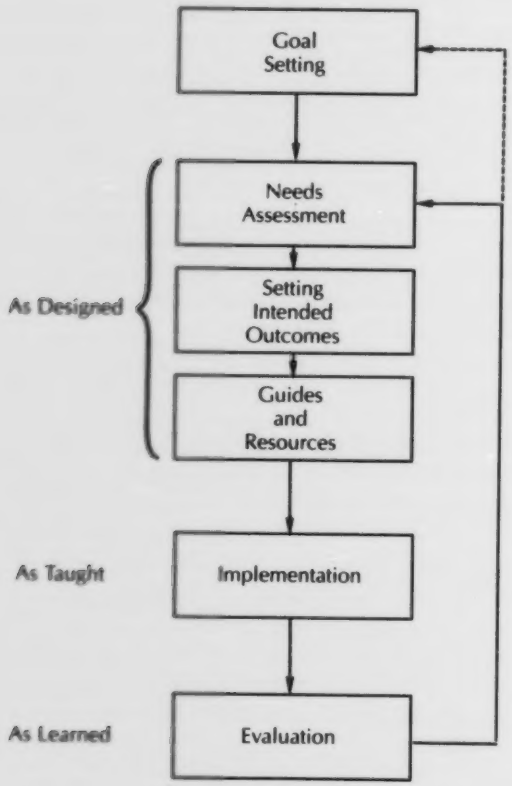
2.393 The process of curriculum development shown below is a continual cycle, as shown in Exhibit 1.

2.394 At the beginning of the cycle, the Ministry is required to set broad goals of schooling for designers to follow. The design process then follows through three distinct phases. First, the Ministry must decide what the students need. Second, designers have to translate the goals and needs into detailed statements of what students should learn. Third, the designers must prepare guides and teacher resource books that summarize the new curriculum, and choose textbooks and other curriculum support resources.

2.395 Although the curriculum is designed by a small number of people, it is taught by thousands. Implementation is concerned with giving teachers the training and tools they need to apply the new curriculum in the classroom.

Exhibit 1

THE CURRICULUM DEVELOPMENT CYCLE



2.396 The evaluation phase closes the loop in the curriculum renewal cycle. It addresses the performance of the students in the classroom — did they learn what it was hoped they would from the new curriculum? Evaluation also looks for side effects, like the ability of the curriculum to capture the students' interest, and assesses the performance of the curriculum itself. Findings from this phase are used to start the next cycle of curriculum development. The whole cycle works best when it is a continuous process, carried out within a reasonable time, so that it brings an acceptable, manageable rate of change.

Three Major Questions

2.397 In our audit, we considered each phase of the curriculum cycle. We looked at how the Ministry gets its answers to three major questions about curriculum:

- Are we getting the right curriculum?
- Are teachers being given the right training and tools to teach it?
- Are the students learning from it?

Getting the Right Curriculum

2.398 Right curriculum means relevant curriculum. The best-designed curriculum will not work unless it meets the needs of the students. What should we teach our children? How should we teach them? Should there be more Science and less Arts? Should there be more vocational training, less "pure" academic curriculum? The Curriculum Development Branch faces these kinds of questions when it prepares new curriculum. The answers come from what our society regards as important, and curriculum designers have to make sure that their decisions on curriculum are based on this. The designers also have to make sure that the methods of instruction used in the curriculum are sound. For example, what methods are most effective in teaching math to seven year-olds.

Summary of Findings

2.399 The process for curriculum renewal is not timely enough, and has lacked the unifying goals needed to achieve consistency and relevance. Also, the Ministry has not set standards for levels of achievement that define a quality basic education. However, at the time of our audit, the Ministry had started to address some of these problems.

Overall Goals

2.400 To design curriculum, the Branch hires coordinators and part-time design committee members from across the Province, and brings them together as a team until the new curriculum is prepared. The coordinators are teachers who are borrowed from the school districts for one or two years; the committee members hold down full-time teaching positions in the districts while they serve on the committee. With the large number of people involved, and their different backgrounds, committees are unlikely to agree completely on the objectives or methods of the curriculum. They need a set of overall goals of schooling to guide them.

2.401 Until recently, the Curriculum Development Branch did not have a professionally conceived set of goals to offer its curriculum designers. As a result, each curriculum committee spent as much as a year developing its own philosophy of what its

curriculum should achieve. This situation changed in 1987 when the Branch prepared a paper setting out the goals of schooling. The paper was based on the findings of the 1984 Ministry report called "Let's Talk About Schools", which surveyed the public's opinion on goals. The Ministry, in responding to other priorities, has been slow completing the goals paper, although it has already used the paper to guide recent committees. When it is finished, the paper will help bring an overall sense of purpose to the provincial curriculum. Then the Ministry will need a process to review the goals periodically, because ideas about schooling change over time. The process should invite input from a broad base, including special interest groups and the public.

2.402 The goals are intended to bring a common approach to all areas of curriculum, but the Ministry needs to ensure that this happens. In the past, the design process has been fragmented because each curriculum committee worked in isolation. There has been little consideration of the overall impact of the curriculum, and little attempt to integrate subjects within grade levels so that they fit together and reinforce each other. For example, there could be strong connections between the teaching of mathematics and the sciences, but this has not yet been fully addressed. The Ministry also lacks a process to assess the impact that proposals for new courses might have on the goals of curriculum.

Deciding to Renew

2.403 The Ministry should know when the time has come to renew a subject area. It has various information sources on curriculum and the factors which affect it, ranging from formal studies of student performance to informal networks built up by Ministry staff. We found that these sources do not give enough information about the areas of curriculum needing renewal. Thus, the Ministry first decides, based on limited information, to renew the curriculum for a particular subject. Then it hires a coordinator who determines what, if anything, needs to be changed.

2.404 We believe it would be more appropriate for the Ministry to assess renewal needs before deciding which area of curriculum to renew, and before hiring the coordinator. A recent case illustrates the need for this. A coordinator spent almost a year looking at the Language Arts curriculum, including conducting a large-scale survey involving 7,000 questionnaires, after the Ministry had hired her to renew it. According to the Ministry's 1986/87 Annual Report, the survey found that teachers are generally satisfied with the present curriculum, although new texts are badly needed.

2.405 The main problem with renewal decisions, however, is that the interval between renewals has been too long. After nine or ten years, large areas of the curriculum have become overdue for change, and the Branch is now responding by bringing in sweeping changes. These are difficult and costly to introduce, as they require extensive teacher training. The scale of the changes also places great demands on the part-time design committees, with the result that they need two or three years to

make all the necessary changes. Some take even longer: the recent Social Studies renewal process went on for ten years.

2.406 Thus, the combination of the long intervals between renewals and the length of time needed to make big changes can add up to 13 years or longer. For example, the current Business Education curriculum was developed between 1974 and 1979, and implemented during the 1979/80 school year. Since then numerous technological advances and economic changes have affected the workplace (the first IBM personal computer was introduced in 1981). As a result, many parts of the Business Education curriculum have become irrelevant to the needs of the students. The curriculum will need substantial revision to meet the changes in technical, communication and critical thinking skills in the new business world. Revision of the curriculum has now begun, but it will be the 1990/91 school year before it is implemented. Meanwhile, many teachers in the Province have already abandoned the provincial curriculum and devised their own. They couldn't wait for the Ministry.

2.407 The Curriculum Development Branch recognizes the need to shorten the cycle. It has proposed a five-year cycle for renewals, as textbooks generally need to be replaced every five years. We believe the concept is sound. It would allow the Branch to keep the curriculum up to date by making smaller changes that can be quickly and economically designed and implemented. However, at the time of our audit, the plan had not brought together all the elements needed to bring it to reality, such as the resources needed in terms of staffing, funding, and support materials like computers, software, and other equipment.

Specifying Intended Results

2.408 Designing curriculum is a creative process, but it follows a general, structured sequence. Once the goals have been established, the design team moves on to writing detailed descriptions of what the student is expected to achieve, (e.g., "the student should be able to understand and measure an angle"). These are called intended outcomes, which, when met, should achieve the goals of the curriculum (e.g., ". . . develop an understanding of mathematics"). The curriculum guides prepared by the committees generally take the form of systematic lists of intended outcomes, linked to textbook references and teaching suggestions. The new mathematics curriculum guide for Grades one to eight, for example, lists 366 intended outcomes under six categories.

2.409 The Curriculum Development Branch has to ensure that the intended outcomes in the guides are practical. One of the best sources for this information is the teachers who will use it. The Branch has good processes for including teachers in the decisions on curriculum. Design committees are primarily made up of teachers, and when the guides are first drafted, the Branch circulates them to the teachers for comment. This open, consultative approach increases the likelihood the new curriculum will be accepted in the schools and helps improve its design.

2.410 The intended outcomes are stated in terms of skills or knowledge to be acquired. The Ministry, however, has not defined what it regards as acceptable levels of progress toward those outcomes. For example, the Ministry sets what marks are required to pass Grade 12 examinations, but these come too late in the process. Decisions about the complexity of exams and acceptable levels of student achievement should be made at the curriculum design stage.

2.411 We believe that the Ministry should define standards for judging student achievement, based on intended outcomes, which taken together constitute the Ministry's definition of a basic quality education.

Giving Teachers the Right Training and Tools

2.412 The Ministry cannot expect teachers to teach new curriculum effectively unless they are given adequate training and support. They need to learn about the revisions, and they need new texts and guides in time to prepare their lesson plans. There are approximately 27,000 teachers in the public school system, so training them in new curriculum is a major undertaking.

Summary of Findings

2.413 Teachers are not receiving the training needed to implement curriculum effectively in a reasonable time. Implementation is the weakest link in the chain of curriculum development. The tools provided by the Ministry are improving, but there are problems regarding supply, and the exclusion of alternative resources from the curriculum.

Training

2.414 With the long gaps between revisions and major changes in curriculum, proper training of teachers has been important. We found the Ministry has not provided adequate training to teachers, and has not adequately supported school districts' implementation efforts.

2.415 The Branch has tried to reach as many teachers as possible by conducting summer workshops to train a small number of teachers from the school districts to act as trainers. These trainers are supposed to spread out through the system, training other teachers. In our opinion, the workshops have limited effectiveness. Screening of participants and follow-up are poor. The Ministry allows two people per school district to attend each workshop, no matter what the size or need of the district. As well, some participants from smaller districts do not have plans for training other teachers in their districts.

2.416 The Ministry does not know whether the trainers actually train other teachers, and does not ask. Furthermore, as soon as the curriculum is introduced, the design

teams are disbanded. Thus, school districts working with new material cannot get help from anyone at the Ministry who was directly involved in developing that material.

2.417 There are examples of curriculum suffering because the teachers did not receive the training they require. According to curriculum designers we spoke to, the Junior Secondary Science course has not been successful, because teachers found it difficult to adapt to its radical change in approach. These designers felt the course would have been more successful if the Ministry had taken implementation of these courses past the stage of orientation workshops, reaching teachers more directly.

Tools

2.418 As well as providing training, the Ministry is responsible for producing the tools for the teachers: curriculum guides and teacher resource books, texts, computers, software, lab equipment and other support materials.

Texts

2.419 Research indicates that between 30% and 90% of students' time is spent working with textbooks. Therefore textbooks must be carefully selected, and there should be an adequate supply. We found that the Ministry does a good job of screening and choosing texts, but there are problems with the timing and supply.

2.420 Most textbooks for new curriculum are delivered to school districts during the summer, when the schools are closed. This does not leave enough time for schools to make their choices of textbooks offered, or for teachers to use them in preparing their lessons. Some texts are even delivered well after the school year has started. For example, when the new Social Studies curriculum for Grade 11 was introduced in September 1987, Ministry staff predicted that teachers would get the books anywhere between November 1987 and May 1988.

2.421 Also, the availability of textbooks in the system has become a controversial subject. To resolve the issue, the Ministry needs better information about the actual condition, supply, and management of textbooks in the districts.

Other Resources

2.422 The Ministry has not developed a consistent approach to using resources other than texts, such as video, computer software and lab equipment. For example, computer software was included in the new chemistry curriculum guide, but excluded from the recent elementary math guide, although designers felt it would have benefited both subjects. Curriculum committees have generally been reluctant to refer to the use of computer software or other resources, even as possible alternatives or enhancements to the textbooks, because they have not known whether

districts have funds to buy them or the equipment (computers, labs, video players) to run them.

2.423 Nevertheless, those we interviewed generally agreed that the Branch has improved the quality of its guides and teacher resource books in recent years. The new guides are more detailed and specific, whereas older guides tended to be very high level summaries of the general intentions of the designers. The recent elementary math guide contained 451 pages; the 1978 version 82 pages. Feedback from the teachers is positive. In a recent survey conducted by the Ministry, 76% of senior Physics teachers expressed satisfaction with their new guide.

2.424 We believe the curriculum would be more effective if it made greater use of resources other than texts, where appropriate. The costs of supplying these resources, as well as the costs of training teachers, could be estimated when the curriculum is designed. Decisions could then be made about whether funds will be available to support the use of these resources, and the curriculum would be designed accordingly. Even if funds are not available for a curriculum based on the use of computers, video or other equipment, we believe the Ministry should provide districts with guidance on how these resources might be used to supplement the curriculum.

Assessing What the Students Learn

2.425 The evaluation phase addresses the performance of students, in comparison to what the curriculum intended them to achieve, and looks for unintended side effects. It is closely associated with needs assessment, which evaluates the performance of the curriculum itself.

Summary of Findings

2.426 The Ministry's primary methods of evaluation do not fully measure the achievement of students in all areas of the curriculum. Provincial learning assessments are too large and infrequent to provide the Ministry with timely information on the effectiveness of the curriculum. The methods of testing may also cause a narrowing of the coverage of the curriculum in the classrooms, and exclude consideration of the side effects of curriculum.

Assessing Achievement

2.427 The Ministry gets its information on student achievement primarily from the Grade 12 exams and Provincial learning Assessment Program (PLAP) studies. Forty-five to eighty percent of the Grade 12 examinations are based on multiple choice, computer marked questions. This restricts the ability of the exams to test for higher level thinking skills, or the social and human development of students, three of the five primary goals of curriculum.

2.428 There is a saying in evaluation that "what is tested is what gets done". Many of the people we interviewed felt that the Grade 12 examinations had led to a narrowing of the way curriculum is taught in the schools. They suspected that teachers were ignoring important aspects of the curriculum in training their students for the examinations. In response to a Ministry survey on the quality of the physics curriculum, some teachers replied that the curriculum didn't matter, as "the exams are the curriculum". Clearly there is a need for the examinations. However, they should be re-designed to reflect the intended outcomes of the curriculum more fully.

2.429 The other major source of information on student performance is the PLAP studies. These studies assess student performance primarily in the four core subjects; English, Mathematics, Science, and Social Studies. However, only one subject is covered in a year, and only grades four, seven and ten are tested. These are massive studies that take two years to plan and execute. Every student in the grades covered writes an exam, and the results are used by the school districts for analysis. Like the Grade 12 exams, the studies are based mainly on multiple choice, computer marked questions, although some studies include supplemental information on teacher attitudes and other qualitative information. We believe these studies are spaced too far apart to provide an ongoing monitoring of achievement.

2.430 In addition to these sources of information, the Ministry supervises a program known as school accreditation, where teams of educators visit schools and evaluate their standards. The reports from these visits focus on administration of the schools, and are of little value in seeing what the students learn.

2.431 Knowing if students have achieved the intended outcomes of the curriculum is only part of the answer. Curriculum can produce unintended outcomes. An example is the student who can quote Shakespeare extensively in an examination, but has developed a dislike of English literature. The Ministry does not look for these kinds of undesirable side effects, although they undoubtedly exist and may provide information on issues like dropout rates, or the lack of enrollment of females in science courses.

Looking Ahead

2.432 The Legislature should expect the Ministry to adopt short-, medium-, and long-term strategies to deal with the problems discussed in this report.

2.433 In the short term, the Legislature should expect the Ministry to introduce new curriculum in a way that allows the educational system to adapt easily to it. The proposed five-year plan is the key to this. However, the plan needs to be more fully developed, and the Ministry needs to identify the funding necessary to carry it out. The plan could eventually lead to less costly and more efficient implementation in the future, while allowing the Ministry to keep the curriculum up to date.

2.434 The learning resources that support the curriculum, such as curriculum guides, textbooks, non-print materials and equipment, are of crucial importance to the operation of the curriculum in the classroom. Over the medium term, the Legislature should expect the Ministry to adopt a more comprehensive view of resources in designing and budgeting for renewals, and to make greater efforts to ensure that enough resources arrive on time.

2.435 Evaluation of curriculum and the related activity of assessing student performance is a complex activity. Good evaluation should test for levels of achievement, assess the relevance and acceptance of the curriculum, and watch for its undesirable side effects. In the long term, the Ministry needs to look for ways to bring all the elements together in a comprehensive approach to an evaluation and needs assessment that serves the curriculum and the students well.

Response of the Ministry of Education to the Auditor General's Comprehensive Audit Reports

Introduction

The Ministry is pleased with the comprehensive treatment of the four major areas included in the audit and has found the recommendations of the Auditor General valuable and timely. This will assist the Ministry in its planning, organization and implementation of its new mandate in the context of available resources.

However, the audit did not extensively address the legislative framework specifying management responsibilities for locally elected boards of school trustees. The present governance system has a significant impact on how the Ministry approaches the management of the four areas audited.

The Ministry is already moving to address many of the deficiencies brought out in the comprehensive audit and has already implemented many of the recommendations. The Ministry is actively engaged in strengthening its policy and planning efforts, in strengthening and consolidating its financial management functions, in designing an evaluation-information system to measure and report on the performances of the schools system in relation to standards and in strengthening its role in program development and implementation.

1. Financing

General

The Ministry acknowledges that it must improve efforts to establish standards more clearly, to measure and report on system performance and to build in linkage between resource allocation and expected results wherever possible.

The Ministry has already undertaken steps to improve and consolidate major financial functions. Efforts to link the allocation of resources with measures of system performance are included in the Ministry's short term objectives and the emerging five year plan.

The Ministry agrees that the financing system should contain standards (service level and costs) and incentives to encourage efficiency and productivity but that some parts of the system rely on actual expenditures. A major change in the method for funding teacher salaries/instructional costs has already been undertaken for 1988/89 school board budgets.

The Ministry agrees that expected outcomes should be converted to statements of standards and evaluation and assessment activities increased.

The audit team relates the dramatic cost increase within the system since 1976 but does not recognize the significant influx of special needs and handicapped children into the public school system during this period.

Fiscal Framework System

The organization and operation of schools which are locked into a school year timetable require student counts to be taken annually on September 30. Boards must set their staffing and school organization prior to school opening. Mid-year funding adjustments would be major disruptions affecting the educational programs for students.

The audit team notes that there is little incentive for school districts to achieve greater economic efficiencies. Since funding is on a formula basis in most areas there are incentives in terms of benefits, class sizes, administrative allowances, equipment, clerical support. Boards do not have to deliver services in accordance with the service levels and cost factors used in the formula. They may achieve economies and then reallocate funds to increase spending in specific areas without creating additional tax requirements, or to reduce tax requirements below a level otherwise required.

The Ministry has taken major steps to improve the integrity of service levels and cost factors and has just announced major improvements to the fiscal framework for the 1988/89 school budget year. Further, the Ministry has put forward proposals to change the way it deals with the costs for the employer's share of teacher pensions.

The Ministry acknowledges that it can, given the necessary resources, increase its monitoring of results and of school district budgets and expenditures. Present legislation does not provide for school board budgets to be approved by the Ministry. The Ministry controls the provincial expenditure side through the funding system.

2. Facilities

Costs

The Ministry acknowledges that it may have to increase its efforts in monitoring facilities management and the linkage between the capital expenditures and operating expenditures to maintain schools.

The schools capital program experienced a dramatic downward trend during the restraint period making it extremely difficult to move beyond a simple maintenance level. The Ministry has had only sufficient resources to provide a maintenance or reactive role.

While current policy has been to leave decisions concerning the location and number of schools to local boards the Ministry will examine more closely the effectiveness of space utilization and possible approaches for ensuring the closure of unneeded or surplus space wherever feasible. School closures are subject to local community characteristics and needs and are dependent upon location, make-up of the student population, the neighborhood school concept, costs resulting from closure and transportation systems. Boards of school trustees are in the best position to make such decisions at the local level and we must rely on them to determine whether schools remain economically justified. The Ministry will review the policies related to school closures.

Maintaining Schools

The audit team indicates that schools are not being maintained as well as they could be. The major fluctuations in the approval of capital amounts has been a major cause of this problem.

3. Special Education

Costs

It is acknowledged that while the Ministry has begun to find ways of judging the benefit produced by special education programs it must increase efforts in this area. This is a difficult task given the nature of special education and the type and severity of handicaps being dealt with in the public school system. In fact, the evaluation/assessment activities of the Ministry are regarded throughout North America as "breaking new ground in the whole area of special education".

Obtaining Values

The Ministry acknowledges that it must do more in the way of obtaining information on the results of special programming and reporting these results. The development of the special education evaluation process is a priority and work continues in this regard as part of the overall Evaluation-Information project within the Ministry.

Reporting

The Ministry concurs that the reporting of special education programs and costs is in need of improvement and it is already taking action in this regard.

4. Curriculum

General

Many of the recommended initiatives have been started by the Branch/Ministry but not yet completed. This applies in both curriculum and assessment areas and is not recognized in the report.

Abstract

The ministry recognizes the need to work with teachers and districts with the retraining of teachers to implement curriculum change effectively.

Overall Conclusion

The recommendation that the Ministry set levels of achievement that define a basic quality education will require very careful consideration if we are to set levels that are realistic and attainable for the wide range of students in the system.

The recent announcement of $10 million of shareable funding for school boards to support curriculum implementation, and the announcement of $5 million for the purchase of equipment to support curriculum should provide considerable assistance.

Getting the Right Curriculum

Goals of schooling are already stated. The goals of curriculum are being developed, but need to be formalized and finalized. The Ministry has articulated a mission statement for the educational system which was included in the 1986/87 Ministry of Education Annual Report.

The audit report recommends that the Ministry develop a comprehensive renewal and design strategy based on the 5 year cycle. In fact, the 5/6 year cycle has already been implemented, although it will be several years before all subjects are on that cycle.

The audit report recommends that acceptable standards of student achievement based on intended outcomes be established. This is a very worthy objective, and one that will need careful attention and consideration.

Giving Teachers the Right Training and Tools

The Ministry regards its role as being to support and assist in the retraining of teachers for new curriculum. Since the teaching force of the Province are the employees of school districts, the Ministry can work most effectively by dealing with teacher retraining in cooperation with the districts.

Active planning is under way to recommend to districts ways in which the implementation funding can be effectively utilized in conjunction with the support that can be made available by the Ministry of Education.

The current study of textbook supply in the Province by the Task Force preparing a cabinet submission will include consideration of timelines and availability of texts.

The Ministry is now costing all aspects of a new curriculum early in the process. Non-print resources (computer, video and other resources) that might be used to supplement the curriculum are being identified and will be included in resourcing plans.

Seeing What the Students Learn

The Ministry agrees that the exams need to cover all of the goals of the curriculum. The transition to the use of the newly developed learning outcomes in assessment systems will accompany the implementation of the curriculum based on those learning outcomes.

The audit report makes recommendations about a comprehensive approach to integrate needs assessment and evaluation of curriculum, student assessment, and school accreditation. This recommendation supports much of the work that is currently being undertaken and challenges staff to extend these efforts.

Improving the Process

The audit report suggests in several places that the Ministry needs to provide the funding to carry out the plan. In order to devote funding to the plan, the Ministry itself will require support from the Legislature, the Government, the Cabinet, and the Treasury Board.

Conclusion

The Ministry has recognized the critical need to improve its overall management of programs and resources and has already taken significant initiatives to clarify direction, to measure the performance of the system and to improve accountability.

The Auditor General is supportive of these changes and this should assist the Ministry to continue along this path of improvement. More specific recommendations are providing a very useful framework by which management systems can be systematically reviewed and improved.

The Ministry has already implemented many of the recommendations noted in the comprehensive audit and has made provision for further follow-up and improvement activities within its 1988/89 priorities and within its five year strategic plan. The Ministry is attempting to further enhance its capability to implement other recommendations of the comprehensive audit through additional restructuring and requests for necessary resources.

Ministry of Energy, Mines and Petroleum Resources: Organization Structure

Purpose

2.436 We undertook our audit to assess whether the Ministry was organized to provide services effectively and efficiently. The audit, which was conducted in the summer of 1987, did not, as a result, consider organizational changes made by the Ministry in late September.

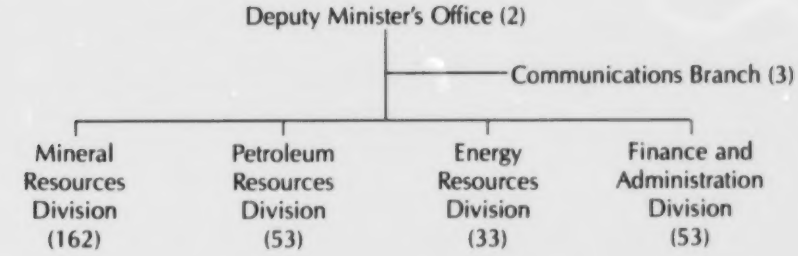
Overall Conclusion

2.437 The Ministry's organization is based on sound concepts. There is a major grouping for each industry served by the Ministry, and a large diversity of work units and skills. However, the organization could be made more effective. The Ministry could better align its structure with its goals, and better distribute its resources to match its program priorities. Integration could also be improved.

2.438 The Ministry is not over-staffed or over-managed. As a small organization with many specialties, it has some problems balancing available manpower with work-load, providing backup when people are absent or positions are unfilled, and maintaining continuity when staff resign or retire. However, overall, the Ministry manages its small size well.

Background

2.439 The Ministry, in addition to its small executive and communication units, has divisions to handle each of the main industries it serves: mineral resources, petroleum resources, and energy resources. These groups are supported by a finance and administration branch which also has some program responsibilities. The following overview chart and accompanying table show the Ministry's major organizational groupings and how the Ministry allocates its 306 staff members.


Deputy Minister's Office (2)
Communications Branch (3)
Mineral Resources Division (162)
Petroleum Resources Division (53)
Energy Resources Division (33)
Finance and Administration Division (53)

Organizational Unit	No. of Staff
Deputy Minister's Office	2
Communications Branch	3
Mineral Resources Division	
Assistant Deputy Minister's Office	2
Engineering & Inspection Branch	60
Geological Survey Branch	53
Mineral Policy Branch	12
Mineral Titles Branch	35
	162
Petroleum Resources Division	
Assistant Deputy Minister's Office	2
Engineering & Operations Branch	30
Geological Branch	10
Titles Branch	11
	53
Energy Resources Division	
Assistant Deputy Minister's Office	5
Policy Development Branch	12
Forecasts & Special Projects Branch	8
Project Analysis Branch	8
	33
Finance and Administration Division	
Executive Director's Office	2
Personnel Branch	5
Finance & Resource Revenue Branch	29
Administration Branch	13
Data Services	4
	53
Total Staff	306

2.440 This table does not include staff hired on contracts or as consultants. They add significantly to the resources of two branches although they are not a significant factor overall. Data Services doubles in size, and the Geological Survey Branch increases by 40% when contractors are counted. We took contract staff and consultants into account in our audit. We also looked at the structure in more detail than is shown in the table, considering the working groups within branches. At head office in Victoria, working groups are typically two to eight people. In the field, there are a number of one-man offices.

Detailed Assessment

What Belongs Where

2.441 During our audit, we examined how the ministry organizes its staff into groups to fulfill the duties assigned to it by the Legislature.

2.442 The Ministry's organization follows sound principles. Programs are delivered primarily by three divisions which mirror the industries the Ministry serves: petroleum, mining, and energy. Each division has its own functional specialists such as engineers, geologists, and economists. A separate division handles internal administrative needs, including personnel and accounting, and also collects royalty revenue. The resulting structure appears simple and responsibilities seem clear. There should be little overlap or duplication. The strength of the design extends to the Ministry's dealings with outside agencies: relations are direct and work well. However, there are internal problems with the structure.

2.443 *Petroleum and Energy Divisions*: Oil and gas are important sources of energy. This creates an unavoidable overlap between the responsibilities of the Petroleum Division and those of the Energy Division. We observed the Petroleum and Energy Divisions duplicating work in some areas, and failing to coordinate their separate specialties in others.

2.444 This problem has arisen only in the last couple of years. Previously, the Petroleum Division concentrated on production and the Energy Division on use. However, two years ago the oil and gas industry was deregulated. Supply and demand issues became much more complex. At the same time, the Government began changing the role of one of its Crown agencies, the British Columbia Petroleum Corporation. This added responsibilities to the Ministry which were not clearly assigned to either the Petroleum Division or the Energy Division.

2.445 The Ministry should clarify the responsibilities of these two Divisions. As an alternative, the Ministry might consider merging the two divisions. Both divisions are now somewhat undersized, and their skills are complimentary; engineering in Petroleum and economics in Energy. The skills of the two might also be complimented in other ways, as the Energy Division has a stronger policy-making capability than does the Petroleum Division.

2.446 *Royalty Programs*: A second problem arose as a result of deregulation of the oil and gas industry and the introduction of a new explicit gas royalty in 1985.

2.447 The support division, Finance and Administration, is responsible for the oil and gas royalty programs. Before deregulation, administering these programs did not require much technical data; accounting expertise was the primary skill needed to run them. Finance and Administration, which had these skills, was therefore well suited to administer the programs. However, with the complexity introduced by deregulation and the new royalty formula, a substantial amount of technical data is now required to identify and assess provincial revenues. In addition, engineering and economic expertise are now required, as well as accounting skills, to administer the programs properly. Because the Financial and Administration Branch does not maintain the Ministry's technical data-bases, it must rely on the Petroleum and Energy Divisions for technical information. It must also rely on these Divisions for engineering and economic skills which were not added to the Finance and Administration Division when the royalty system was changed.

2.448 During our audit, we observed confusion over the roles and responsibilities of the three divisions, duplication of effort, and a failure to collect all money owed the Crown. The Ministry needs to clarify divisional responsibilities for the oil and gas royalty revenue programs, and to ensure that all required skills are brought to bear in the administration of these programs.

2.449 *Finance and Administration Division*: Achieving the proper balance between service and control in financial and administrative support services is a challenge that is proving difficult for the Ministry.

2.450 The Finance and Administration Branch is expected to combine both service and control aspects in its role. For instance, the Branch is expected to serve the other divisions in the Ministry by assisting and supporting them in accounting and personnel matters. At the same time, it is also expected to ensure that both government and Ministry policies and procedures are followed, and to control financial expenditures. Service and control are inherently contradictory and it is difficult to do both well, even with ample resources. The Ministry's Finance and Administration Branch is leanly staffed. Furthermore, this service versus control challenge is made more difficult in the Ministry, as there are no formal organizational mechanisms for the Branch to communicate with those it is intended to serve and to control.

2.451 We observed a number of problems related to the service versus control issue. We believe the Finance and Administration Branch should review these aspects of its activities for conflicts and contradictions, and resolve these problems. Also, the Branch should establish a better means of communicating with others.

2.452 *Ministry-level Programs*: The present Ministry structure has only one program at the ministry level, the Communications Branch. This Branch performs a public rela-

tions function. There are two other issues that require considerable executive attention and which might also report at this level: land use, and offshore exploration.

2.453 Land use issues arise in the programs of each of the Petroleum, Mining and Energy Divisions. Most require a balancing of the Ministry's interests with those of other ministries. Although land use gets some ministry-level attention through the executive committee, considerable high-level attention is needed to offset the numerical advantage of other ministries in terms of staff. Without thorough and well-researched representations from the Ministry, the Government may make land use decisions without adequate consideration of the interests of the industries the Ministry represents.

2.454 Offshore resources is the other program that might benefit from a move to the ministry level. The program is in its embryonic stage, with its main impacts, which may be very substantial, to be felt in the future. When we conducted our audit, the Petroleum Division was administering the program, although the results could have significant impacts for both the petroleum and mining industries. At this early stage, the program was also disrupting the ongoing work of the Petroleum Division.

2.455 *Multiple Goals*: Some branches struggle with multiple goals. The Ministry has five general goals: economic development, revenue maximization, resource conservation, safety, and environmental protection. Some of these goals conflict with others. For instance, policies designed to conserve the resource may not be compatible with those intended to maximize provincial revenues.

2.456 We found the Ministry's branch structure was not designed to minimize these conflicts. Several branches pursue more than one of the five goals, making them difficult to manage. Although goal congruency will pose challenges in any organization which has multiple goals that are inherently at odds with one another, careful organizational design can reduce these conflicts. To the extent possible, each operating unit should be assigned a single goal. Where it is necessary to assign more than one goal to a branch or an operating unit, congruency problems can be reduced by making conscious decisions about the priority that will be given each of the goals.

Working Together

2.457 With five goals to balance, volatile world-scale industries to serve, and programs involving policy advice, information, and regulation, the Ministry of Energy, Mines and Petroleum Resources operates in a complex environment. The Ministry deals with this complexity well by employing a diversity of skills and organizing them into a large number of small specialist groups. Contractors and consultants add to the expertise of Ministry staff, but are not significant overall.

2.458 While the Ministry's organizational diversity serves it well, this diversity must be balanced by strong integration among the working groups, lest the various parts go off in different directions. Integration is particularly important if separate goals are assigned to separate work units. The formal organization hierarchy is the first line of integration. Although having industry-oriented divisions lessens the need for ministry-wide integration, where this need exists it has not been effective. For example, as noted previously, the Ministry could improve its handling of land use issues and, as explained later, staff could be deployed more effectively.

2.459 Integration within each of the three major divisions is handled much better with the branches generally working well with each other where required. The key links at the management and policy level are the division heads and the division management committees. At the working level, small staff numbers working in close proximity to one another make contact straightforward.

Being Small

2.460 The most striking feature of the Ministry's organization is its small size. Some ministries of government have more staff in a single branch than the Ministry of Energy, Mines and Petroleum Resources has altogether. The diversity of the Ministry's mandate exaggerates this smallness. Yet overall, the Ministry does well in gaining the benefits, and avoiding the problems, of small size.

2.461 The Ministry has few levels of management and each manager has few people reporting to him. These small units are inherently easier to manage. Although there are a lot of small units, the Ministry avoids unnecessary management overhead by having most managers work on technical issues as well as managing. Organizing in this way also has the side benefit of creating an easy career path from professional to manager.

2.462 The Ministry's small working units do cause some problems. One is providing back-up when people are away from their jobs or when positions are unfilled. For example, one branch had problems coping when a senior staff member retired. This branch faces three more retirements soon. Another difficulty of small working groups is matching the work-force to the workload. It is challenging, for example, to fill partial positions when there is enough work for one and a half full-time specialists. With these small working units more attention should be paid to managing staff transitions, to developing more generic jobs for support staff, and to organizing common field offices for staff of all branches.

Peoples' Jobs

2.463 *Economy*: During our audit of the Ministry's organization, we reviewed the number of staff in the Ministry and their deployment. The Ministry does well on economy. It does not have excess staff. It also classifies its jobs suitably and hires properly

qualified people. Contractors and consultants are used modestly, and, generally, appropriately. We measured the Ministry's administrative and management overhead at a low 15% of total staff.

2.464 Our one concern with the economy of staffing relates to the balance between the number of support staff and the number of management and professional staff. While some jack-of-all-trades work is inevitable in small organizations, it is uneconomical to have managers and professionals do work that could be delegated to support staff. We found this problem exists in the Ministry of Energy, Mines and Petroleum Resources.

2.465 *Staff Deployment*: The Ministry has a broad mandate and a small work-force. This keeps all staff busy, but does not guarantee they are working on the most important things. As part of our audit we asked the Ministry executive in September of 1987 how the staff should be deployed in relation to the Ministry's five major goals. We also measured how staff actually spent their time. The following table compares the deployment considered desirable with actual staff activity.

Goal	Desirable Staffing (%)	Actual Staffing (%)
Obtain revenue for the Province	40	28
Develop the economy	25	40
Conserve our resources	20	9
Protect workers and the public	10	14
Protect the environment	5	9

2.466 These differences become even more pronounced when Ministry grant programs are included. The resources devoted to pursuing economic development go up, while the percentage of resources dedicated to achieving the other goals go down. To the extent that these results measure a real discrepancy between how resources should be deployed and how they are actually deployed, they represent opportunities for improved efficiency. The imbalance exists partly because management does not evaluate its programs. It is also partly a residue of reduction in government staff levels under restraint.

2.467 All Ministry branches lost staff during the Government's restraint program. This put them all under pressure to cope. As a result of this pressure, each branch was able to make a strong case for retaining every existing position. In addition, in an attempt to maintain previous service levels, management tended to forsake planning, spending their time instead personally doing the work of the staff that had been lost. Without proper evaluation or integration, the merits of shifting staff to other duties elsewhere in the Ministry were never fully explored. Consequently, existing staff imbalances persist, and the Ministry has found it difficult to deploy sufficient staff to pursue its newer goals.

2.468 During our audit we found that some branches were having difficulty providing former service levels using existing methods and with current staff levels. We observed Ministry operations being disrupted by only small changes in work levels or in staff availability; a lowering of work quality; a crisis mode of operation; and little time being devoted to planning and managing. However, for the most part, the Ministry has not sought new ways to achieve its goals nor confronted the fact that, to do the important things well, it may have to concentrate on doing fewer things.

Looking Ahead

2.469 The Legislature should expect the Ministry to better balance its staffing and its priorities. Although we found the Ministry is hard-pressed to meet its mandate, we are not recommending staff increases. The Ministry has not undertaken thorough planning and evaluation to ensure that it applies its resources to its more important needs. Further, the Ministry has not ensured that it uses its current positions to the best effect. It has been reluctant to move positions across division boundaries, and to explore alternative service delivery techniques. The Ministry's staff needs can be evaluated fairly only after existing opportunities for improving organizational efficiency have been identified and dealt with.

Ministry of Energy, Mines and Petroleum Resources: Natural Gas Royalty Revenue

Purpose

2.470 We undertook our audit to assess whether the Ministry is determining and collecting the correct gas royalty in a timely and efficient manner. The audit, which was conducted from May to July 1987, included a review of the Ministry's past actions, current practices, and future plans concerning gas royalty administration.

Overall Conclusion

2.471 We concluded that the Ministry does not ensure that the correct gas royalty is determined and collected.

2.472 In response to significant and rapid changes in the petroleum industry in the early 1980s, the Ministry correctly identified the major issues with which it had to contend and established policies to deal with them. However, the administrative difficulty of putting the policies into practice was not fully appreciated or addressed. As a result, administrative problems arose soon after the new royalty system began operating in 1985. These problems resulted in the Province foregoing substantial revenues.

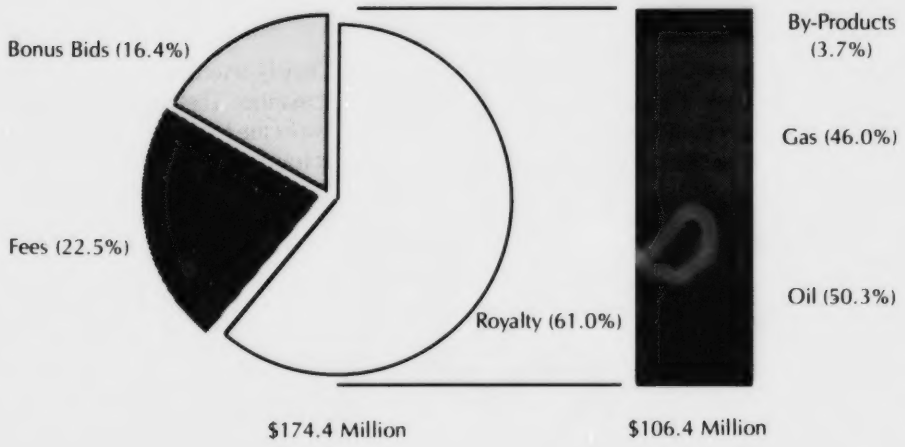
2.473 Although these problems were not detected by ministry staff immediately, most were known to them when we conducted our audit. At that time, the Ministry was focusing on improving its computer systems. We believe the other administrative problems should also receive sufficient attention to ensure their resolution.

Background

2.474 The Crown owns most of the land and mineral rights in the Province. Companies wanting to exploit these resources do so with provincial approvals. Companies buy rights to explore for petroleum resources, pay annual rentals on their tenures, and pay royalties on their production. The source and value of these revenues for 1986 is shown in Exhibit 1.

Exhibit 1

REVENUE FROM THE PETROLEUM INDUSTRY



Source: Oil and Gas in British Columbia
The Bottom Line. 1987
(Ministry Publication)

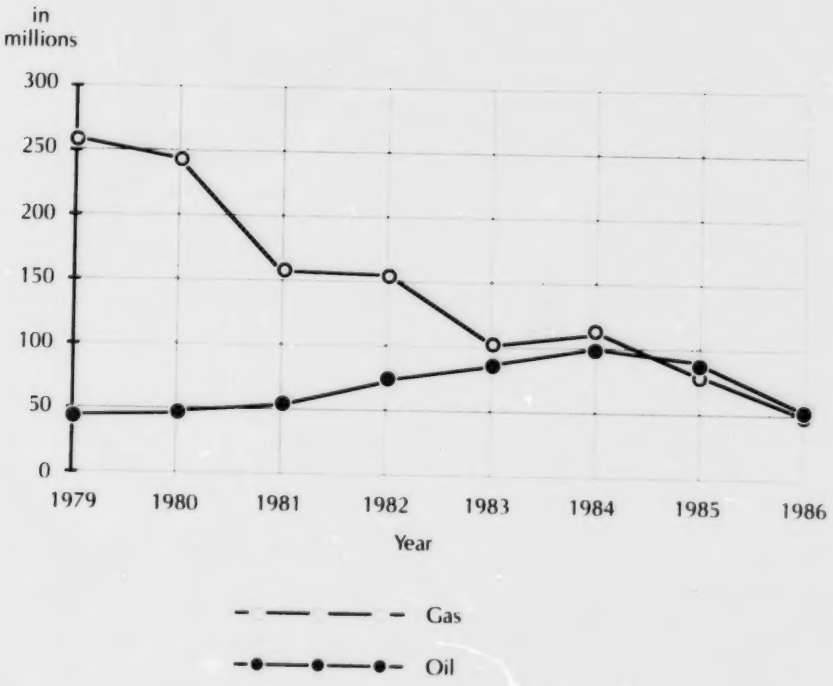
2.475 Our audit concentrated on the natural gas royalty administration system, as it was introduced more recently and is more complex than the oil royalty formula.

2.476 Exhibit 2 shows that provincial revenue from natural gas has undergone a much more dramatic change over the past few years than has revenue from oil royalty.

2.477 In 1985, the way the Province obtains its share of revenue from natural gas production changed significantly. Until then, the British Columbia Petroleum Corporation, a provincial Crown corporation, bought all the gas from producers and sold it to Westcoast Transmission Co. Ltd. The profit earned from this activity was the provincial share of the value of production. In July 1985, the Government introduced an explicit royalty system for natural gas and made the Ministry responsible for its collection. This change was made to address a number of concerns government and industry had with the system previously in place. The explicit royalty system, which was recommended by a government study of the oil and gas industry, was accepted by the Government in May 1984, leaving the Ministry a year in which to put a suitable organization and system in place to collect the gas royalty.

Exhibit 2

ROYALTY REVENUES — 1979 to 1986



Source: Oil and Gas in British Columbia
The Bottom Line. 1987
(Ministry Publication)

2.478 Three things are particularly significant about the new royalty system. First, because it is self-assessing, there is a certain amount of risk inherent in the system. Companies producing gas calculate the royalty due and remit their payments along with supporting documentation. This system is similar to that used in this country to collect income taxes. Because those being taxed are also the ones calculating the amount due and submitting the returns, self-assessing systems by their nature involve a certain amount of risk.

2.479 Second, the royalty system is large and complex. Because the formula used to calculate royalties is well-based, returns are submitted monthly for each of the more than 1200 gas wells in the province. Furthermore, the complex formula includes factors for the location, depth, age and production rate of each well, and additionally any exemptions, royalty holidays, cost of gathering and preparing the gas for entry into a pipeline, and the market price for gas. Consequently, there are several hundred different royalty rates that apply to the Province's gas wells.

2.480 Third, the administration of an explicit royalty system was new to the Ministry, and its staff had little experience to draw on when implementing the new system.

2.481 The Ministry's challenge has been compounded by revisions to the royalty formula as the Government responded to the rapidly evolving national and international oil situation.

Detailed Assessment

2.482 We conducted our audit two years after the new royalty system was started. When we were planning our audit, ministry staff informed us that they had identified several significant problems in the royalty revenue systems. To its credit, the Ministry had also quantified the financial impacts of some of these problems. Its analysis indicates that these problems resulted in millions of dollars of Provincial revenue being forgone. Because the Ministry incorrectly permitted certain costs of production to be deducted twice in calculating the royalty revenue due, the Province collected approximately $1.5 million less revenue than it was owed under the regulations during the first six months after the new royalty system was introduced. Although in December of 1985 the regulations were brought into agreement with the calculation method, the Ministry was slow to resolve problems that were known to persist with these production cost allowances. Consequently, further significant revenues were forgone by the Province until these problems were finally resolved in May of 1987. Other administrative problems are estimated by Ministry staff to have cost the Province $1.3 million in the first two years of the system's operation. These difficulties included weaknesses in cash flow management, an inability to confirm prices, costs and volumes of gas available for sale, an inability to properly monitor the application of royalty factors, and a general inability to confirm that companies were complying with the regulations. The Ministry has not estimated revenue shortfalls from other known problems, although they are thought to be less significant.

2.483 The Ministry has now rectified the problem of producer costs by revising the regulations. However, annual losses estimated to exceed $600,000 from the administrative problems persist.

2.484 The nature of the new royalty system and the experience of ministry staff with such systems suggest that certain additional control and administrative procedures would have been appropriate.

2.485 When self-assessing systems are used, it is vital that those required to complete and file returns are aware of the rules and procedures that apply. The revenue collector therefore needs to communicate clearly and fully with those required to submit returns. In addition, revenue systems that are based on self-assessment and voluntary reporting, such as those used for income taxes and the province's gas royalty, do not lend themselves to checking before the returns are filed. Such checks, often

called preventative controls because they are designed to prevent errors before they can occur, are not possible as the information required to do a proper verification is not available until the return is submitted. Instead, controls designed to detect errors and omissions after the return has been received are more appropriate. These are generally known as detective controls. A good analytic and audit capability is needed to ensure that the all gas produced gets reported, and that reported royalties are based on accurate data and correct interpretation of the royalty formula.

2.486 The nature of the royalty system requires gas producers to submit considerable technical data monthly and requires the Ministry to do detailed calculations on this data. With the volume of reporting and the intricacies of the formula, a good computer system should be part of a sound royalty administration system. The frequent revisions to the royalty formula and the introduction of new provisions, such as the royalty holiday, increased the volume and complexity of company submissions, and the need for the Ministry to update its computer systems.

2.487 The size and complexity of the explicit royalty and the Ministry's inexperience with such systems combined to suggest that the Ministry needed to increase the numbers and skills of management and staff when it accepted responsibility for the new royalty system. It also needed to ensure that these people were organized properly.

2.488 The Ministry recognized the need for most of these attributes in its royalty revenue system, but met with varying degrees of success in implementing them. Several problems were encountered.

- Very high error rates occurred in the returns submitted by the gas companies, partly because the Ministry provided insufficient instruction to the companies.
- The Ministry was unable to confirm the reliability of company-submitted data because of insufficient audit work.
- The Ministry was unable to process company submissions in a timely fashion because of computer hardware failure and staff shortages. This created a six to eight month backlog, and resulted in a Ministry decision to forego penalties for late filing and interest on underpayments.
- The Ministry was unable to use the computer as an effective error detecting device because ongoing defects in the computer programs required staff to manually compute information and override edits.
- Staff were unable to verify returns because they had to forego analysis and checking to cope with the high volume of submissions.
- The Ministry was unable to predict trouble spots, work loads and the effects of policy changes on administration because there was a general lack of experience at all levels in the use of computers and in the operation of complex royalty systems.

- Resources were diverted from verifying and processing returns to cross-checking and reconciling discrepancies in the data maintained by the three Divisions of the Ministry with responsibilities for royalty revenue. This divided responsibility for royalty administration also weakened the reliability of the system and slowed down corrective action.

2.489 The impact of these problems was cumulative. For example, the Ministry initially held seminars for gas producers, instructing them in the proper application of the royalty formula. It also prepared a manual on the royalty for staff. When processing problems occurred, staff were redeployed in an attempt to deal with the growing backlog of data being submitted from industry. The seminars were stopped and the manual was not kept up-to-date. This resulted in a higher incidence of reporting errors by the companies, which in turn placed a higher load on the already overburdened staff and computer system. At the same time, less guidance was available to staff so they found their work more difficult.

2.490 These factors accumulated so that, by the time of our audit, what should have been a comprehensive system of royalty administration had become little more than a banking function for company-calculated payments.

2.491 Nine months after the new royalty system was implemented, Ministry management recognized the system was in difficulty and took action to identify the nature and extent of the problems. Accordingly it is now aware of most of the problems that exist. Some have been dealt with. For example, the Ministry has resolved its computer capacity problem. Others, such as organization and staffing, remained. In addition, we believed the proposal that was being considered by the Ministry at the time of our audit to replace the existing computer system with a large and complex integrated resource management system was risky. Successful implementation would require project management skills the Ministry had not demonstrated in the past.

Looking Ahead

2.492 The Legislature should expect the Ministry to continue its efforts to improve royalty administration. The Ministry must now prepare a comprehensive plan to address those issues that remain. This plan will likely include a request for additional resources to resolve some of the outstanding matters, particularly for its new computer system, and to establish an effective audit capability. We believe that some additional resources are justified during the period that the Ministry is attempting to bring about improvements and, at the same time, is coping with the heavy processing demands, which are exacerbated by the current systems deficiencies. Once the necessary improvements are accomplished, a complete review should be done to ensure that the resources provided to the Ministry match the demands of the job.

Ministry of Energy, Mines and Petroleum Resources: Petroleum Resources Division

Audit Purpose

2.493 We conducted our audit to assess how well the Petroleum Resources Division of the Ministry of Energy, Mines and Petroleum Resources was being managed. We assessed whether the Division was complying with its mandate, operating efficiently, directing and controlling staff properly, and measuring and reporting program results to the Legislature and public.

2.494 We reviewed all operations of the Division except the activities of the Offshore Department and the Mediation and Arbitration Board. The British Columbia Petroleum Corporation, a related Crown corporation, was also excluded from our audit.

2.495 Information for this audit was gathered during May through July 1987.

Overall Conclusion

2.496 The regular work of the Division has grown steadily during the 1980s while staff levels have been reduced. Starting two years ago, changes in government policy and technical progress in the oil and gas industry added extra work for the Division. Since then, although the Division has attempted to meet its full legislated mandate, it has not been able to do so.

2.497 Management processes in the Division are informal, reflecting its small size and the ample experience of its staff. While this is efficient in the use of management time, better planning is needed to respond effectively to the increased demands on the Division. The Division is efficient in a number of its other methods, particularly the borrowing of proven practices from other jurisdictions. However, many opportunities still exist to improve operating efficiency.

2.498 Although the Division collects much data, it lacks good measures of success. It needs these measures to plan more effectively and to improve its accountability reporting.

Background

The Oil and Gas Industry

2.499 The Division is responsible for the production part of the industry which includes exploring and drilling for oil and natural gas. Alberta is the center of the petroleum industry in Canada, with British Columbia and Saskatchewan each having about 5% of Alberta's production. Most companies in the industry have their headquarters in Calgary and operate in all three provinces. There are about 150 small companies operating in British Columbia in addition to the large ones such as Esso, Texaco, Petro-Canada, and Dome.

2.500 All current oil and gas production is located in the north-east of the Province, although there is some exploration now being done in other areas. The oil produced in British Columbia meets about 20% of the provincial demand. Gas production meets 100% of provincial demand, with large quantities being available for export. The industry's production value has been about $1 billion per year over the last 10 years, although this varies with world prices and the quantity of gas exported. During the same period, the annual production value for mining has been about $2.5 billion and for forestry about $6 billion.

2.501 The Crown owns almost all the petroleum resources in the Province. Companies buy rights to explore for oil and gas, pay annual rentals on their tenures, and pay royalties on their production. Provincial income from oil and gas production was $184 million in 1986, which was down considerably from previous years due to lower prices. Although the production value of forestry and mining is much larger than that of oil and gas, over the past 10 years oil and gas have contributed $3.4 billion to provincial revenues, an amount larger than that from either forestry or mining.

The Division

2.502 The Petroleum Resources Division consists of six operating groups, which are described below with their budget share.

- *Titles Branch* manages the disposition of exploration rights. (20%)
- *Geology Branch* provides technical advice to the other branches and provides data for industry. (20%)
- *Engineering Branch* regulates the industry to ensure maximum recovery of oil and gas, gives policy advice on regulation and royalties, and provides data for industry. (25%)
- *Field Operations* monitors the safety of industry production methods and producer restorations of the environment. (25%)

- *Offshore Department* is preparing for oil and gas exploration and production in the coastal waters of British Columbia. (5%)
- *Mediation and Arbitration Board* is an independent board that settles disputes between surface landowners and the oil companies which own subsurface rights. (5%)

2.503 In 1987, the Division had 53 staff positions and a budget of $4.1 million. Compared to other resource management groups in government such as mining, forestry, and environment, the Petroleum Resources Division is small.

Detailed Assessment

Complying with the Mandate

2.504 The Division is responsible for administering two main Acts, the *Ministry of Energy, Mines and Petroleum Act* and the *Petroleum and Natural Gas Act*. One is regulatory. It establishes the methods used to dispense exploration rights, sets the rates for tenure rentals, and provides the statutory basis for the Division's responsibilities with respect to resource conservation, safe production methods, and environmental protection. The other Act directs the Division to provide policy advice to the Government, and to obtain and publicize data about the Province's oil and gas resources, and the petroleum industry.

2.505 In addition to the explicit mandate incorporated in these Acts, the Government has directed the Division to assist the economic development of the industry and to maximize provincial revenues from oil and gas. These economic goals require the Division to study the short- and long-term availability of oil and gas in the Province; to compare British Columbia's competitive position with those of other producers, such as Alberta; to understand world supply and demand conditions; and to recommend appropriate policies to the Government.

2.506 Overall, this makes the Division's mandate broad and intricate. The following examples demonstrate the challenge of the Division's mandate.

- The most suitable policies for a non-renewable resource such as oil and gas will differ depending on whether the short-term or long-term is emphasized.
- Different parts of the mandate, such as economic development and environmental protection, conflict.
- Economic development in the industry is very sensitive to world prices, which the Division cannot control. For example, within the last few years sulphur prices have increased five-fold. This has increased industry interest in "sour gas" which has a high sulphur content. However, because sour gas is poisonous, it requires much more stringent safety precautions. As a result, the Division has had to direct staff to give regulation of sour gas a higher priority, thereby leaving staff with less time for other programs.

2.507 At the time of the audit, the Division was not effectively addressing its full mandate. Two factors contributed to this.

2.508 First, the Division's workload grew while staff levels were reduced. There has been a steady year-over-year growth in the number of oil and gas wells the Division must regulate. Additionally, in the last few years, several new issues have emerged that required attention from the Division. The more significant of these are a more complicated tenure structure, deregulated pricing, adoption of more complex production technology, increased interest in sour gas, and new exploration areas, particularly offshore. Division staffing was reduced from 60 in 1982 to 53 in 1984 and has been held constant since.

2.509 The second factor contributing to the Division's problem in fulfilling its mandate was management's reaction to the gap that appeared between its responsibilities and its staffing. Management recognized the Division was falling short of meeting its mandate, and so requested more staff. Believing that, since it had a good case, additional staff would be made available soon, management did not seek a reduction in mandate, nor start a concerted program to increase productivity. As a temporary measure, to bridge the gap until the extra staff could be acquired, management decided to carry much more of the Division's technical workload itself, filling in on the line until the new people could take over. To find the time for this, management tended to forego managing. It relied on the experience of its staff to carry the Division through until it could get back to managing.

2.510 However, the additional staff were not forthcoming. Meanwhile, staff struggled with the growing workload and with new priorities as additional issues emerged. A few long-time staff members retired during this period, adding to the problems. Because management were occupied doing the technical work of the Division, they did not have time to plan and direct staff or to vigorously pursue opportunities to increase productivity. In addition, some of the Division's efforts to recruit replacement staff and to improve efficiency through computerization were delayed by decisions made beyond the direct control of the Division.

2.511 We believe that, despite the urgency of the operational work being performed by management, priority must now be given to the management process. The additional resources needed to make management's original plan successful have not yet arrived and cannot be counted on in the near future. Operational priorities must be set, responsibilities and resources balanced, and efforts made to achieve better productivity. The plan for doing this, together with an analysis of the costs and benefits, can be used by the Ministry and government decision-makers to determine if it is necessary either to increase resources or to reduce the mandate of the Division.

2.512 However, preparation of a suitable plan for the Division will require considerable effort. The Division cannot do all the old tasks and all the new, so the plan must look at the entire mandate, not just the new issues. Also, before it plans, management

needs to confirm and document measures of success for its programs, and to develop standards of performance for staff work. Furthermore, performance standards and any plans for reallocating staff should be based on information about the proportion of time staff now devote to various activities. None of this preparatory information currently exists. Despite the effort required to prepare a plan, its benefits outweigh its costs.

Operating Efficiently

2.513 We examined the efficiency of a variety of operational practices of the Division. A mixed picture emerged. Although the Division was operating efficiently in several areas, partly because of recent improvements, many areas where progress could be made remain.

2.514 We commend the Division for a number of its operational practices. It borrows the regulatory and research work of other governments, thus avoiding needless duplication of effort. It also works cooperatively with other British Columbia ministries and avoids duplicating their functions. Staff strive to achieve the Division's regulatory goals without unduly hampering industry. And the Division uses its small size well; avoiding bureaucracy, talking rather than writing, and attending to issues promptly through ad hoc meetings.

2.515 Management has also done well in developing a common sense of purpose and a service ethic among the staff. Management has not used a corporate philosophy or a mission statement and goals to accomplish these. Rather they come more from the stability of the Division over many years, and from recruiting staff with experience in the oil and gas industry. These factors result in staff sharing a similar understanding of the Division's purpose and a desire to assist the industry. Although field staff focus on safety and environmental issues, and head office personnel on conservation and economic development matters, the overall direction of the Division is congruent. However, this common sense of purpose exists mainly in the traditional work of the Division. There is less understanding of, and agreement on, the new issues.

2.516 The organizational structure of the Division is satisfactory. The branches work together and do not overlap or leave serious gaps in function.

2.517 The Division has experienced difficulty striking the proper balance between professional and support staff. In a small organization it is inevitable that senior staff will do some routine work which in a larger organization would be delegated. Nevertheless, the current consensus in the Division is that economy could be improved with more support staff.

2.518 The Division has also had difficulty making productive use of private-sector contractors. Despite the problems it has experienced serving its full mandate, the Division has not employed contractors as extensively as the Government has been

willing to fund their use. Management's reluctance stems from concerns about their effectiveness and their net productivity, their benefits after costs such as initial training time and management time are considered. Management is also concerned about hiring contractors because of union jurisdiction issues and because of the travel costs associated with engaging oil industry experts who are located in Calgary where the Canadian petroleum industry is based. We concluded that many of the difficulties the Division has had with contractors are due to insufficient management time being spent in planning for their use and in supervising them. Although contractors are not a panacea, they are an available resource that could better be employed.

2.519 The Division has made some small, but significant, productivity improvements. For instance, it has used facsimile transmission to speed service and to reduce travel time and costs. There are other small enhancements to facilities and equipment that could have similar benefits: better office layouts, four-wheel-drive vehicles, and fast photocopiers with collators.

2.520 An area where the Division could achieve major productivity gains is through better use of computers. The Division processes a lot of data, sends out an abundance of forms and letters, performs many calculations and analyses, and schedules large volumes of work. These are all areas that are particularly well suited to computer use. However, the Ministry has not taken full advantage of computer technology to improve its efficiency and effectiveness in these areas.

2.521 A computer plan prepared in 1985 by a senior manager correctly identified the Division's data processing problems. At that time the Division's two main data processing systems, which management had recognized needed replacing in 1978, were in poor shape. Additionally, the Division made little use of computers for analysis and did little word processing. The Division's computer plan identified the need to reduce duplicate and inaccurate data; to achieve higher productivity from staff by streamlining the data handling, computerizing manual data systems, and making computer data more accesible; and to improve effectiveness by using computer data for regulation, analysis, and industry service purposes. The plan also recognized that the Division was vulnerable to the loss of key staff members who were nearing retirement.

2.522 Since then the Division has made progress. It has improved its two mainframe systems, corrected many of the inaccuracies in its historic data, accommodated two retirements, devoted two staff members exclusively to data management, and started to use microcomputers. Perhaps its most significant success has been computerizing another large manual system so that staff in that area can now cope with a much higher volume of business.

2.523 Despite this progress, the Division still has many of the same problems it had two years ago. We believe it could have done better. The computerization goals it set in 1985 were too optimistic, as are the 1987 goals. If the Division were more realistic

about what is possible, different priorities would be set. In particular, priority should go to obtaining full-time computer expertise in the Division, to using more microcomputers, and to developing systems that will liberate manpower. For example, the computer in Fort St. John is used mainly to track inspection compliance, a quality improvement. Focusing instead on inspection scheduling would have a direct productivity payoff.

2.524 Overall, while the Division can take pride in achieving certain efficiencies and in making progress in other areas, there are still many opportunities to improve economy, efficiency and effectiveness.

Accountability Reporting

2.525 Accountability reporting refers to the information the Division provides to those it serves as to how good a job it is doing for them. In our opinion, the Division does not give a proper accounting of its performance.

2.526 The Division has a mandate from the Legislature to serve the citizens of British Columbia as the steward of their oil and gas resource. The mandate also requires the Division to serve the oil and gas industry. In addition, the Division is responsible to the Government of the day, on whose behalf it exercises delegated authority.

2.527 The Division is hindered in its accountability reporting by lack of defined measures of success. It gathers a considerable amount of data and publishes it. Much of the data consists of historical series so year-over-year comparisons can be made. But the Division has never decided, nor published, what it considers to be a good level of performance. Without these measurements, the Division's accountability reporting is incomplete.

2.528 We evaluated the accounting actually provided by the Division in its publications. The Legislature and public receive a statistical brochure which is fairly useful, and a simple and stylish annual report which lacks substance. The industry, which comparatively is the better served, receives a considerable amount of data.

2.529 The Division claims that it lacks an effective voice with the Government. We believe this lack of impact with the Government is due, at least in part, to the Division's weakness in communication, both with the Government and with other audiences who might influence the Government.

Looking Ahead

2.530 The Legislature should expect the Division to prepare a plan that defines program priorities and a means of achieving the planned outcomes. The proposal should contain suggestions for improving productivity, and identify the costs and benefits of pursuing each goal. The Legislature should also expect the Ministry and govern-

ment decision-makers to support with adequate resources, that part of the plan that is considered essential, and to relieve the Division of responsibility for goals that are not considered worth acquiring.

Ministry of Energy, Mines and Petroleum Resources: Mineral Resources Division, Engineering and Inspection Branch

Audit Purpose

2.531 We conducted our audit to determine whether the Engineering and Inspection Branch is economically and efficiently fulfilling its responsibility to protect the safety of miners and the public, and to manage the environmental impacts of mining. We also evaluated whether the Branch measures its success and reports its results to the Legislature and the public. Our audit was performed during the fall of 1987.

Overall Conclusion

2.532 The Branch is responsible for ensuring public and worker safety at mine sites, and for ensuring that the environment is protected and that mining sites are returned to an acceptable condition after use. The Branch does an adequate number of inspections of operating mines, although mine safety standards need to be defined more specifically in some areas and made more enforceable. However, the nature and extent of the Branch's work on other responsibilities such as sand and gravel pits, exploration sites, abandoned mines and acid mine drainage are not sufficient to meet the mandate.

2.533 Management and staff are technically competent and strive for economy. However, the current organization structure is not efficient. The activities of staff need to be more effectively focused on the more important activities of the Branch.

2.534 The Branch does not measure the success of its activities adequately or account effectively for its results to the Legislature, the Government, the public or the industry it serves.

Background

2.535 The Engineering and Inspection Branch is responsible for ensuring that the safety and environmental protection regulations that govern mining in British Columbia are enforced. All types of mines, from large underground mines to placer operations and gravel pits, are governed by the regulations which apply to over 4,000 mining operations within the Province. The Branch regulates all aspects of mining, from exploration to final reclamation. Branch staff approve mining plans and inspect mines to ensure public safety, worker health and safety, and protection of

the environment. They also investigate mining accidents. In addition, the Branch is responsible for recommending changes in the *Mines Act* and related regulations to the Government.

2.536 The Branch has 60 employees including 39 inspectors, eight field offices, and an annual budget of $3.5 million.

Detailed Assessment

Meeting the Mandate

2.537 There are currently about 4,400 active mining and exploration properties in British Columbia that require inspection. The Branch's professional staff estimate that about 9,100 inspections are needed annually to monitor work-sites. Last year the Branch's 39 inspectors conducted about 2,400 inspections. The distribution of these is shown in Exhibit 1.

Exhibit 1

INSPECTION WORKLOAD

Number	Type	Number of Inspections Desirable Per Year*	Desirable Total	Actual Done	Actual %
34	Large operating mines	12	408	665	110
33	Small operating mines	6	198		
100	Abandoned Mines	0.5	50	0	0
2,000	Sand and gravel pits	2	4,000	414	10
42	Quarries	3	126	90	72
856	Placer operations	2	1,712	650	38
1,313	Exploration sites	2	2,626	570	22
4,378	Total	—	9,120	2,389	26

* This figure is based on an inspection strategy under which every operation other than abandoned mines is visited at least once each year.

2.538 The Exhibit shows that far fewer than the desirable number of inspections are being carried out. The figure for desirable inspections is the number that Branch inspectors determined, in their judgement as experts in the field, are needed to fulfil the Branch's legislated mandate to protect mine workers, the public and the environment.

2.539 The Exhibit shows that the Branch is performing an adequate number of inspections of operating mines. These mines employ most of the workers and have the most hours worked. As a group, they are also most able to regulate the safety of their workers themselves, frequently having safety committees and employing their own safety experts.

2.540 As the Exhibit shows, the frequency of Branch inspections at all other sites is well below the desired level. Branch management indicate that inspections undertaken to protect public and worker safety have precedence over those conducted with the purpose of protecting the environment. However, the present level of inspections is insufficient to cover off the safety inspections that Branch staff indicated were needed, even if no environmental inspections were done. The shortfall therefore pertains to both safety and environmental inspections.

2.541 Several other major issues, in addition to the inspection program, are not receiving enough attention. In our view, the most important of these are protection of public safety in and around old abandoned mines, certification of underground miners, the investigating and reporting of accidents and dangerous occurrences, and acid mine drainage. The involvement of Ministry staff with these issues has been limited to reacting to problems that have occurred. A more preventative approach of systematically monitoring the issues might have forestalled some of these incidents. Acid mine drainage is seen as an increasingly serious problem which will take a major effort and significant expenditures to resolve. Branch staff are members of provincial and national committees studying this problem. As well, the Ministry is working closely with the Ministry of Environment and Parks to address the known cases.

2.542 The Branch performs a technical review of the plans for all proposed mining developments in the Province. This review process plays an important part in ensuring that adequate safety standards are met when new mines are constructed, and that the environmental impact of the development is minimized. We found that these reviews are carried out in a thorough and professional manner.

Problems with Legislation

2.543 The *Mines Act* and related regulations address most significant mine safety and occupational health concerns. However, they do not always spell out the standards that must be met to ensure a safe mine-site. Furthermore, they neither define what constitutes an inspection nor provide an effective means of enforcement. Consequently, mine owners and managers do not always know the standards by which they will be judged. Additionally, and perhaps more importantly, they are unable to determine for themselves whether they are operating a mine that conforms in all respects with Provincial regulations. Another consequence is that inspectors sometimes make inconsistent rulings and have problems enforcing the vaguely worded regulations.

2.544 These difficulties have been recognized by the Branch, and a well organized effort is underway to revise the statutes. The legislative review program, particularly the setting of standards within the regulations, is expected to produce several significant benefits:

- mines will be able to assume a greater degree of self-regulation;
- more consistent assessments that are more easily accepted by mine owners and managers will result from applying uniform standards that are known to all;
- inspectors will be able to achieve a greater degree of compliance with more effective enforcement provisions;
- less seasoned inspectors can carry out the work, as inspections will not involve standard setting but primarily monitoring compliance with previously established standards;
- contract inspectors can be used to handle peak seasonal inspection loads because inspection requirements will be more clearly defined; and
- more inspections can be performed within a given time period, as less time will be spent interpreting regulations and setting ad hoc standards.

2.545 Other government ministries have jurisdiction in certain areas that are similar to those of the Ministry of Energy, Mines and Petroleum Resources. The *Environment Management Act*, the *Waste Management Act*, and the *Park Act* all contain provisions which overlap those of the *Mines Act*. These conflicts in jurisdiction should be resolved by revising the statutes or by signing protocol agreements with the ministries responsible.

Managing the Branch

2.546 Branch management uses an activity reporting system to assist them in monitoring and controlling where staff spend their time. Exhibit 2 summarizes the time allocated to the Branch's various activities during the period November 1986 to November 1987.

Exhibit 2

ALLOCATION OF WORKING TIME (%)

Activity	The Branch Overall	Inspectors
Inspections — Inspections	6.9	10.4
— Travel	6.2	9.6
— Administration	5.0	6.2
	18.1	26.2
Investigations	3.2	3.1
Reviews and Approvals	13.0	14.4
Legislation, Research, Training and Computerization	13.8	9.9
Other work	51.9	46.4
Total	100.0	100.0

2.547 The information in the Exhibit shows that, although the Branch has defined inspection and accident investigation as one of its key priorities, only about 21% of resources are being applied to these areas. Management wants to increase the time spent on priority activities. However, the activity reporting system is not refined enough to indicate what amount of time is being charged to the various activities included as other work, and whether any of this time is available for reassignment.

2.548 The number of inspections done has increased by 10% over the previous year. Nevertheless, considerable opportunity still exists to improve overall efficiency through better management practices.

2.549 Management has done a thorough job of translating the Branch's mission statement into specific objectives and plans. However, results-oriented performance measures are lacking, both for the Branch as a whole and for individual staff members. The lack of internal policies, procedures and standards also detracts from the overall efficiency of the Branch.

2.550 The current organizational structure is not efficient. For example, notwithstanding a recent reorganization, technical specialists, who work in several districts, report to a person responsible for only one of those districts. As well, the three Regional Managers are located in Victoria and spend most of their time on issues other than regional management. The structure should be revised to better accommodate the Branch's responsibilities, the geographic distribution of its workload, and the need for regional direction.

2.551 The staff of the Branch are technically competent and are dedicated to their work. They deal with the mines they regulate in a professional manner and usually obtain results without confrontation. There is good cooperation with other Ministry branches and other ministries.

2.552 The facilities, vehicles and office equipment allocated to the Branch are generally adequate, and both management and staff strive for economy. Branch staff could make good use of computer technology but do not have the computers available to them. For instance, a computerized system for keeping track of inspection results and ensuring proper follow-up would be of immediate benefit to all inspectors.

Accounting for Results

2.553 The Branch has inadequate measures of success and its reports to the Legislature, the public, and industry are often ineffective or out-of-date when published.

2.554 Industry accident frequency is the key performance indicator used by management to gauge the success of the Branch. Accident statistics show the mining industry to be one of the safest in British Columbia. With a more thorough understanding of the relationship between accidents and various Branch activities, management would be better able to measure its performance.

2.555 The Ministry publishes an annual report to which the Branch contributes a one paragraph statement. This does not adequately account for the Ministry's use of the powers and resources that have been provided by the Legislative Assembly.

2.556 Since 1874 the Branch has also published an annual Chief Inspector's Report for industry. This report describes mining accidents that have occurred in the Province and provides selected mining statistics. The 1975 to 1980 reports were combined into one publication which was issued in 1983; the 1980 to 1985 reports have been similarly consolidated, but have not yet been published. No work has been done on the 1986 or 1987 reports. We believe these reports are of questionable value in view of the long delays in getting them published.

Looking Ahead

2.557 The Legislature should expect the Branch to develop and seek approval for a comprehensive plan to resolve its major problems. We believe the plan should outline alternatives for improving the Branch's organizational efficiency, and for matching its resources with its mandate. Emphasis should be given to improving direction and control through the introduction of more specific Regulations, policies and standards. The Branch should also develop suitable measures of success, take steps to improve its accountability reporting, and make automation a priority.

Response of the Ministry of Energy, Mines and Petroleum Resources to the Auditor General's Comprehensive Reports

Introduction

The following section provides the Ministry's response to the four audit reports prepared by the Office of the Auditor General.

The opportunity to respond has been used by the Ministry to place the audit findings in the context of the Ministry's present organization, priorities and Business Plan. The audit reviews were carried out in May–September 1987 prior to major changes in organization, staffing, systems, and planning processes which have subsequently taken place. This has meant that all major areas of concern expressed in the audit reports have been carefully considered and remedial steps taken.

The opportunity has also been taken in this response to qualify or to provide further elaboration on specific audit findings where the Ministry believes this is required for a complete understanding of the issues involved.

For convenience, the sequence follows that of the four reports. Thus, direct reference can be made to each of the areas which the Office of the Auditor General examined.

Overview

In summary form, the Ministry's responses to the four reports are as follows:

I. Organization Structure

The audit team concluded that the organizational structure of this small Ministry needed fine tuning.

The Ministry agrees with this conclusion, which was reflected in the re-organization which took place in October 1987.

Since then, the Ministry has gone on to develop a comprehensive Business Plan. The Plan gives an overview of the Ministry's mission, values and objectives, and a detailed outline of priority initiatives to be undertaken in the 1988/89 fiscal year and beyond.

II. Natural Gas Royalty Revenue

The audit team concluded that the natural gas royalty system had suffered administrative problems since its introduction in 1985 and that the correct royalties were not determined and collected.

The Ministry concurs that, at the time of the audit, the Ministry's system for managing the collection, verification and reporting of natural gas royalties was inadequate to meet the much higher volumes and greater complexity of the direct royalty system which started in July 1985.

Many of the problems enumerated in the audit report have been addressed. For example, weaknesses in cash flow management have been addressed through electronic fund transfers which began in the summer of 1986. The Ministry has enhanced its audit program with experienced private-sector auditors and sophisticated audit computer software. A report tracking system introduced in January 1988 ensures the capability to confirm that companies comply with royalty regulations. Procedures to confirm prices have been put in place. The Ministry has also reorganized the resource revenue function and deployed additional staff to this critical area.

The audit team reported the Ministry's estimate of $1.3 million outstanding as a result of past administrative difficulties. Action to recover these funds is underway.

The Ministry has also initiated longer-term action to strengthen the resource revenue function and this will continue as a major priority in the 1988/89 Business Plan. A $2 million budget allocation has been made by Treasury Board for a re-write of the revenue computer system.

III. Petroleum Resources Division

The audit team concluded that this Division had not effectively addressed its full mandate.

The Ministry, in its reorganization of October 1987 merged the Petroleum Resources Division with the Energy Resources Division. This gave a greater "pool" of resources, eliminated duplication of efforts, and streamlined management responsibilities. Also, additional staff resources have been deployed to the Division's Engineering and Operations Branch.

The Ministry Business Plan sets out business goals and program priorities. Particular attention is given to measures to improve productivity in all aspects of Division operations. Also, the Plan presents options to further improve operating efficiency through the transfer of service functions to a separate Petroleum Resources Board.

IV. Mineral Resources Division, Engineering and Inspection Branch

The audit team concluded that the Branch conducted far fewer inspections than desirable.

The Ministry disagrees with this assessment. British Columbians can be proud that our mining industry is the safest heavy industry in the Province and has one of the best mine safety records in Canada. The Ministry believes that the Inspection and Engineering Branch has contributed to this through a variety of means in addition to the inspection activities

considered by the Audit team. During the audit year, the Ministry came with one-half of one percent of its 1987/88 target.

Neither can the Ministry accept the detailed finding that the frequency of inspections at gravel pits, placer sites, and exploration locations is well below what it should be. Compared to the rate of inspections at large operating mines, Ministry personnel make more than five times the number of inspections per man-hour worked at gravel pits, placer sites and exploration locations. Further, the Audit team failed to take into account the safety inspections made by the Workers' Compensation Board at sand and gravel operations.

Branch activities protect life as a first priority, protect the environment second, and address mineral and coal resource conservation third. The Ministry's continuing review of mining legislation and its Business Plan give due regard to identified areas of concern such as acid mine drainage, clarifying overlapping provincial standards, and delivering engineering and inspection services in the most efficient and well-organized way. At time same time, the Ministry will not relax its efforts to maintain the existing high safety standards in the Province's mining industry.

Summary

It is the Ministry's belief that the concerns raised by the 1987 audits in each of the four areas have been addressed in its Business Plan and that consultation with industry associations, labour organizations, and experts in the mineral and petroleum sectors towards the establishment of Mineral and Petroleum Resource Boards ensures that the concerns will be resolved in the most efficient and effective way.

Audit Finding	Ministry Comment
I. ORGANIZATION STRUCTURE	
OVERALL CONCLUSION	
The Ministry could better align its structure with its goals, and better distribute its resources to match its program priorities. Integration could also be improved.	Agreed. Organizational changes already undertaken provide for an integration and streamlining of Ministry operations, clarify Divisional responsibilities and ensure that any duplication of effort is avoided. It should also be noted that the development of the Ministry Business Plan included a comprehensive review and redeployment of Ministry staffing to ensure the best possible match between resources and Ministry priorities.

Audit Finding	Ministry Comment
DETAILED ASSESSMENT	
We observed the Petroleum and Energy Divisions duplicating work in some areas, and failing to coordinate their separate specialties in others... The Ministry should clarify the responsibilities of these two Divisions. As an alternative, the Ministry might consider merging the two Divisions.	Agreed. In October 1987, the Ministry merged the two Divisions under the direction of a single Assistant Deputy Minister.
The Ministry needs to clarify divisional responsibilities for the oil and gas royalty revenue programs, and to ensure that all required skills are brought to bear in the administration of these programs.	Agreed. Responsibility for the Resource Revenue Branch has been reassigned to the new Energy Division, ensuring that all required skills — including expertise in engineering, economic analysis and accounting — are made available within an integrated organization.
We observed a number of problems relating to the service versus control issue. We believe the Finance and Administration Branch should review these aspects of its activities for conflicts and contradictions, and resolve these problems. Also, the Branch should establish a better means of communicating with others.	The Ministry Business Plan has established service as the priority of the staff support branches, while at the same time ensuring that all necessary control functions required by statute or government policy are continued. The Ministry does not view service and control as inherently contradictory, and considers that it is effectively employing resources to meet both requirements. The reorganization of support services under four directors who report at the Ministry level and who participate in weekly executive meetings adequately addresses the communications problems noted at the time of the audit.

Audit Finding	Ministry Comment
The present Ministry structure has only one program at the Ministry level, the Communications Branch. This Branch performs a public relations function. There are two other issues that require considerable executive attention and which might also report at this level: land use, and offshore exploration.	As a result of the recent restructuring of Ministry operations there are now four branches reporting at the Ministry level: Communications, Data Services, Finance and Administration, and Personnel. The Ministry believes that the existing organization for land use and offshore exploration issues best meets operational requirements. Negotiation of a Pacific Accord covering offshore exploration for petroleum and mineral resources is one of the high priority initiatives identified in the Ministry's Business Plan.
To the extent possible, each operating unit should be assigned a single goal. Where it is necessary to assign more than one goal to a branch or an operating unit, congruency problems can be reduced by making conscious decisions about the priority that will be given each of the goals.	The Ministry mandate consists of three major components — economic development, revenue collection and industry regulation. Each operating branch is assigned priority responsibility for only one of these components. Policy issues involving more than one major goal are routinely referred to the Ministry executive, which meets weekly, so that congruence problems are resolved in accordance with overall Ministry policy and government direction.
Our one concern with the economy of staffing relates to the balance between the number of support staff and the number of management and professional staff.	Agreed. The recent restructuring of Ministry operations reduces the number of management positions and provides a better balance between managers and line staff.

Audit Finding	Ministry Comment
Without proper evaluation or integration, the merits of shifting staff to other duties elsewhere in the Ministry were never fully explored. Consequently, existing staff imbalances persist, and the Ministry has found it difficult to deploy sufficient staff to pursue its newer goals.	Since completion of the audit, development of the Ministry Business Plan included a comprehensive, cross-ministry review and redeployment of staff resources. Staff imbalances which existed at the time of the audit have been corrected. Ministry executive have also introduced mechanisms for the regular review and reallocation of FTEs to meet changing priorities and operational requirements. Moreover, the Ministry's ability to deploy staff across branch and divisional boundaries has been significantly enhanced through the recent integration and streamlining of Ministry operations. The Ministry executive does not agree with the proposed staffing levels set out in the audit report. Neither does it understand nor has it been explained how these figures were derived.
However, for the most part, the Ministry has not sought new ways to achieve its goals nor confronted the fact that, to do the important things well, it may have to concentrate on doing fewer things.	The Ministry Business Plan clearly communicates the Ministry's strategic objectives, key initiatives and priorities for staff effort. The Plan also requires the Ministry to monitor closely the ongoing performance of its operations. As an integral part of finalizing the Business Plan, each branch is being asked to establish measurable results consistent with overall Ministry goals and internal capabilities. In addition, the Ministry's management information system is being reviewed in order to better support improved quality and productivity in Ministry operations.

Audit Finding	Ministry Comment
LOOKING AHEAD	
The Legislature should expect the Ministry to better balance its staffing and priorities.	This has now been done.
The Ministry has not undertaken thorough planning and evaluation to ensure it applies its resources to its more important needs.	The development of the Ministry Business Plan provides a comprehensive planning approach for the allocation and application of resources to priority needs.
Further, the Ministry has not ensured that it uses its current positions to the best effect. It has been reluctant to move positions across division boundaries, and to explore alternative service delivery techniques.	As noted previously, mechanisms are now in place to move positions across division boundaries. More importantly, the Ministry Business Plan explores alternative approaches to service delivery, through the proposal to transfer industry service functions to Petroleum and Mineral Resources Boards. This proposal provides opportunities for improving the delivery of resource management programs, for reducing the size and cost of government, and for promoting a better working partnership between government and industry.

Audit Finding | Ministry Comment

II. MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES: NATURAL GAS ROYALTY REVENUE

OVERALL CONCLUSION

We concluded that the Ministry does not ensure that the correct gas royalty is determined and collected.

At the time of the audit, the Ministry's system for managing the collection, verification and reporting of gas royalties was inadequate to meet the demands resulting from the switch to a direct royalty system on July 1, 1985.

This change substantially increased the volume and complexity of basic transaction processing. The inability of the system to cope with the new demands resulted in significant processing backlogs and a lack of reliable management information. It quickly became apparent to the Ministry that major changes in the administrative and computer systems were required.

Both before the audit and in subsequent months, the Ministry devoted considerable resources to gain an understanding of the problems posed by the royalty system and to take action to resolve these problems. Key initiatives have included:

- Introduction of a simplified, flat-rate royalty for natural gas and natural gas liquids — beginning June 1, 1988
- Reorganization of the resource revenue function — March, 1988
- Rewrite of the royalty revenue computer system — October 1987–December 1989
- Increased verification and audit effort — April 1986 and ongoing.

Priority attention to this area is a major feature of the Ministry's 1988/89 Business Plan.

Audit Finding	Ministry Comment
DETAILED ASSESSMENT	
Because the Ministry incorrectly permitted certain costs of production to be deducted twice in calculating the royalty revenue due, the Province collected approximately $1.5 million less revenue that it was owed under the regulations during the first six months after the new royalty system was introduced.	Agreed. The Ministry has initiated action to recover this foregone revenue.
Other administrative problems are estimated by Ministry staff to have cost the Province $1.3 million in the first two years of the system's operation. These difficulties include weaknesses in cash flow management, an inability to confirm prices, costs and volumes of gas available for sale, and inability to properly monitor the application of royalty factors, and a general inability to confirm that companies were complying with the regulations.	The Ministry has developed a detailed action plan to address each of these problems. Action to recover these funds is underway. Weaknesses in cash flow management have been addressed through electronic fund transfers introduced in the summer of 1986. The Ministry now has the ability to properly confirm prices. This is being done retroactively. The royalty revenue system rewrite, now underway, will address problems associated with a lack of information on costs and volumes of gas available for sale. The Ministry has introduced sophisticated audit software which significantly improves its capability to identify anomalies. An enhanced compliance audit program, using this software and experienced private-sector auditors is now underway. A report tracking system introduced in January 1988, ensures that the Ministry is able to confirm that companies comply with the regulations. Interest and penalties are assessed in a timely fashion.

Audit Finding	Ministry Comment
A good analytic and audit capability is needed to ensure that all the gas produced gets reported, and that reported royalties are based on accurate data and correct interpretation of the royalty formula. The frequent revisions to the royalty formula and the introduction of new provisions, such as the royalty holiday, increased the volume and complexity of company submissions, and the need for the Ministry to update its computer systems.	The system rewrite and enhanced compliance audits noted previously will ensure that this capability is in place.
	This problem is being addressed through the royalty system rewrite project. Also, it should be noted that computer capacity problems which resulted from the new royalty system were resolved in August 1987.
The size and complexity of the explicit royalty and the Ministry's inexperience with such systems combined to suggest that the Ministry needed to increase the numbers and skills of management and staff when it accepted responsibility for the new royalty system. It also needed to ensure that these people were organized properly.	The royalty function has been reorganized as a separate branch within the new Energy Division. This reorganization has resulted in the deployment of additional FTEs and increased management capacity, including a new contract administrator's position to manage the royalty system rewrite project.
Very high error rates occurred in the returns submitted by the gas companies, partly because the Ministry provided insufficient instruction to the companies.	Agreed. Additional effort is being expended in preparing instruction manuals and in training industry staff in the new royalty system.
The Ministry was unable to confirm the reliability of company-submitted data because of insufficient audit work.	The royalty system rewrite project will ensure that the link between natural gas production and sales is verifiable for audit purposes.
The Ministry was unable to process company submissions in a timely fashion because of computer hardware failure and staff shortages.	Agreed. As was noted previously, the Ministry has provided increased computer and staff capacity to the royalty revenue function. The Ministry is able to assess penalties for late filing and interest on underpayments in a timely manner. Current efforts are expected to eliminate any remaining backlog by August 1988.

Audit Finding	Ministry Comment
The Ministry was unable to use the computer as an effective error detecting device because ongoing defects in the computer programs required staff to manually compute information and override edits.	The effectiveness of the new audit software recently introduced by the Ministry will be further enhanced through the royalty system rewrite project. Improvements in information gathering made through the project will identify production-related anomalies and thereby assist in the more effective targetting of field audits.
Staff were unable to verify returns because they had to forego analysis and checking to cope with the high volume of submissions.	Agreed. This problem has been addressed through the allocation of additional FTEs.
The Ministry was unable to predict trouble spots, work loads and the effects of policy changes on administration because there was a general lack of experience at all levels in the use of computers and in the operation of complex royalty systems.	Agreed.
Resources were diverted from verifying and processing returns to cross-checking and reconciling discrepancies in the data maintained by the three Divisions of the Ministry with responsibilities for royalty revenue. This divided responsibility for royalty administration also weakened the reliability of the system and slowed down corrective action.	Responsibility for the Resource Revenue Branch has been reassigned to the new Energy Division, ensuring that all required skills — including expertise in engineering, economic analysis and accounting — are made available within an integrated organization.
In addition, we believed the proposal that was being considered by the Ministry at the time of our audit to replace the existing computer system with a large and complex integrated resource management system was risky.	The Ministry is not proposing to build a large-scale integrated system. A number of options were considered, and the Ministry chose to adopt a manageable phased approach, concentrating efforts on the rewrite of selected modules pertaining primarily to the collection and verification of oil and gas royalties.

Audit Finding	Ministry Comment
LOOKING AHEAD	
The Legislature should expect the Ministry to continue its efforts to improve royalty administration.	Agreed.
The Ministry must now prepare a comprehensive plan to address those issues that remain. This plan will likely include a request for additional resources to resolve some of the outstanding matters, particularly for its new computer system, and to establish an effective audit capability. We believe that some additional resources are justified during the period the Ministry is attempting to bring about improvements and, at the same time, is coping with heavy processing demands, which are exacerbated by the current systems deficiencies.	Agreed. The Ministry has prepared a detailed action plan to address outstanding royalty administration issues. The Ministry has deployed additional management and staff resources to this critical function and Treasury Board have approved additional expenditures of more than $2 million to fund improvements to the royalty system.
Once the necessary improvements are accomplished, a complete review should be done to ensure that the resources provided to the Ministry match the demands of the job.	Agreed.

III. PETROLEUM RESOURCES DIVISION

OVERALL CONCLUSION

Management processes in the Division are informal, reflecting its small size and the ample experience of its staff. While this is efficient in the use of management time, better planning is needed to respond effectively to the increased demands on the Division. The Division is efficient in a number of its other methods, particularly the borrowing of proven practices from other jurisdictions. However, many opportunities still exist to improve operation efficiency.	As was noted in the previous section, the Ministry Business Plan clearly communicates the Ministry's strategic objectives, key initiatives and priorities for the Division. The Plan requires the Division to establish business goals and measureable performance outcomes. The plan also provides a comprehensive planning approach for the allocation and application of resources to priority needs and thus builds on the strengths identified by the audit team.

Audit Finding	Ministry Comment
Although the Division collects much data, it lacks good measures of success. It needs these measures to plan more effectively and to improve its accountability reporting.	The consolidation of the Petroleum Resources Division and the Energy Resources Division under the direction of a single Assistant Deputy Minister was completed in October 1987. This restructuring of Division operations clarifies responsibilities and provides a better balance between managers and line staff. The merger also provides a stronger policy planning capability for petroleum issues. Further improvements in operating efficiency through the transfer of service functions to a separate Petroleum Resources Board are now under active consideration.
DETAILED ASSESSMENT	
At the time of the audit, the Division was not effectively addressing its full mandate. Two factors contributed to this.	Agreed. Additional staff resources have been added to the Division's Engineering and Operations Branch.
First, the Division's workload grew while staff levels were reduced ...	A common sense of purpose and a service ethic among staff has been developed through circulation of the Ministry Business Plan. This contains the Ministry's mission and values statement, and specifies strategic objectives, key initiatives, and priority activities.
The second factor contributing to the Division's problem in fulfilling its mandate was management's reaction to the gap that appeared between its responsibilities and its staffing ...	
The Division has experienced difficulty striking the proper balance between professional and support staff.	Agreed. The Ministry has remedied this problem.
The Division has also had difficulty making productive use of private-sector contractors.	The Ministry does not agree with the opinion expressed in the audit report. The Division employs private-sector contractors where it is appropriate and cost-effective to do so.

Audit Finding	Ministry Comment
An area where the Division could achieve major productivity gains is through better use of computers.	The Division has achieved major productivity gains by using computers. At the time of the audit, work was underway on two major computer programs: the Hydrocarbon Program, dealing with petroleum and natural gas reserves, and the PANG System, dealing with engineering and production data covering every oil and gas well in British Columbia. The work carried out on these systems has significantly added to the productivity of the Division. Starting in April 1987, the Division provided personal computers for engineering and technical staff. Three PCs have now been installed and are being extensively used on a regular basis.
Accountability reporting refers to the information the Division provides to those it serves as to how good a job it is doing for them. In our opinion, the Division does not give a proper accounting of its performance.	The Ministry Business Plan will provide a clear statement of what the Ministry aims to accomplish in the coming year and beyond. When completed, the Plan will also set out specific action plans and performance measures for each branch in the Division. This will ensure that the Division improves the quality of its accountability reporting.

LOOKING AHEAD

The Legislature should expect the Division to prepare a plan that defines program priorities and a means of achieving the planned outcomes. The proposal should contain suggestions for improving productivity, and identify the costs and benefits of pursuing each goal. The Legislature should also expect the Ministry and government decision-makers to support with adequate resources, that part of the plan that is considered essential, and to relieve the Division of responsibility for goals that are not considered worth acquiring.	Agreed. The Ministry Business Plan sets out program priorities and overall goals and objectives. Particular attention is given to measures to streamline and improve productivity in all aspects of Division operations. Also, the Plan presents options for the further rationalization of activities now carried out within this and other divisions of the Ministry.

Audit Finding	Ministry Comment

IV. ENGINEERING AND INSPECTION BRANCH

OVERALL CONCLUSION

The Branch is responsible for ensuring public and worker safety at mines sites, and for ensuring that the environment is protected and that mining sites are returned to an acceptable condition after use.

The Ministry has defined the Branch mission, consistent with the *Mines Act*, as: To protect the health and safety of mine workers; to protect the safety of the public; to ensure optimum extraction of coal and mineral resources in an orderly manner with minimal disturbance to the environment. Branch activities protect life as a first priority, protect the environment second, and mineral and coal resources conservation third.

British Columbia's mining industry is the safest heavy industry in the province and one of the safest mining industries in Canada. British Columbia is also a recognized world-leader in mine reclamation. The Ministry believes that the activities of the Engineering and Inspection Branch have played a significant role in achieving this excellent record.

In relation to the size of the industry (measured in terms of employment, number of work-sites, and man-hours worked) the Ministry carries out more health/safety/reclamation inspections than other comparable organizations.

In addition to its compliance-oriented activities, the Branch places heavy emphasis on prevention, through the establishment of high standards, prior approvals of mine and reclamation plans, and the certification of key mine personnel and mining equipment. The Appendix to this report contains summary statistics on Branch operations and mine safety.

Audit Finding	Ministry Comment
The Branch does an adequate number of inspections of operating mines, although mine safety standards need to be defined more specifically in some areas and made more enforceable.	Agreed. The Ministry is currently drafting new legislation and regulations with a view to introducing an amended *Mines Act* and Mines Act Regulation to the Legislature for the Spring 1989 session. This legislation, which will be the result of extensive consultations with and involvement of industry and labour organizations, will address the identified deficiency.
However, the nature and extent of the Branch's work on other responsibilities such as sand and gravel pits, exploration sites, abandoned mines and acid mine drainage are not sufficient to meet the mandate.	The Ministry believes that the present program of Branch activities is a good one, which provides optimum results with reasonable expenditures. Nevertheless, the Ministry does agree that further improvements are possible and expects to achieve improved results through its legislative review program and other initiatives contained in the Ministry Business Plan.
Management and staff are technically competent and strive for economy. However, the current organization structure is not efficient. The activities of staff need to be more effectively focused on the more important activities of the Branch.	The Ministry Business Plan clearly communicates the Ministry's overall objectives and key initiatives and focusses Branch effort in priority areas. Branch operations are being restructured to provide increased effectiveness.
The Branch does not measure the success of its activities adequately or account effectively for its results to the Legislature, the Government, the public or the industry it serves.	The Ministry Business Plan will provide a clear statement of what the Ministry aims to accomplish in the coming year and beyond. When completed, the Plan will also set out specific action plans and performance measures for each Branch in the Division. This will ensure that the Division improves the quality of its accountability reporting.

Audit Finding	Ministry Comment
DETAILED ASSESSMENT	
There are currently about 4,400 active mining and exploration properties in British Columbia that require inspection. The Branch's professional staff estimate that about 9,100 inspections are needed annually to monitor worksites.	As was noted previously, the Ministry considers the present inspections program adequate to meet mandated requirements. The Ministry executive does not agree that 9,100 inspections are needed annually. This is an optimal figure generated by Branch professionals who are dedicated to improving safety in the industry. This is commendable and the industry is fortunate to have such dedicated workers; management, however, is faced with hard choices of resource allocation. While the professional staff would like to prevent every accident and feel that 9,100 inspections would do this, the Ministry executive has had to recognize that British Columbia has one of the best safety records in Canada in making its resource allocations. The Branch Plan for 1987/88 specified a target of 2,400 inspections. The Branch comes within one-half of one percent in meeting this target. Table 3 in the Appendix shows the inspection coverage of the Ministry for the period 1981–1987 and the accident frequency rate for those years. The Table shows that the number of inspections has increased in every year and that the accident frequency rate has declined over this period.
The Exhibit shows that the Branch is performing an adequate number of inspections of operating mines. These mines employ most of the workers and have the most hours worked. As a group, they are also most able to regulate the safety of their workers themselves, frequently having safety committees and employing their own safety experts.	The Ministry agrees that the Branch is performing an adequate number of inspections of operating mines. The Ministry also agrees that these mines are the most able to regulate themselves. Proposed legislation will facilitate increased self-regulation by mine management in conjunction with joint management-labour safety committees. Nevertheless, many operating mines are large, complex operations and continued monitoring by specialists will be required.

Audit Finding	Ministry Comment
As the Exhibit shows, the frequency of Branch inspections at all other sites is well below the desired level. Branch management indicate that inspections undertaken to protect public and worker safety have precedence over those conducted with the purpose of protecting the environment. However, the present level of inspections is insufficient to cover off the safety inspections that Branch staff indicated were needed, even if no environmental inspections were done. The shortfall therefore pertains to both safety and environmental inspections.	The Ministry does not agree that the frequency of inspections at sand and gravel pits, quarries, placer mines, and exploration sites is well below the desired level. The vast majority of these operations are small and many operate for only short periods. Compared to larger operating mines, most of these smaller operations involve significantly lower risk to health or safety and present lesser environmental impacts. Nevertheless, the number of Ministry inspections per man-hour worked at these operations is over five times larger than the comparable figure for operating mines. Furthermore, under a protocol agreement with the Ministry, the Workers' Compensation Board is responsible for inspections of three-quarters of the sand and gravel quarries in the province. Inspections carried out by the WCB are not reflected in the Exhibit.
Several other major issues, in addition to the inspection program, are not receiving enough attention. In our view, the most important of these are protection of public safety in and around old abandoned mines, certification of underground miners, the investigating and reporting of accidents and dangerous occurrences, and acid mine drainage. The involvement of Ministry staff with these issues has been limited to reacting to problems that have occurred. A more preventative approach to systematically monitoring the issues might have forestalled some of these incidents.	The Ministry does not believe there is any basis for this conclusion. Abandoned mines for which records exist are monitored for compliance. Potential hazards at mines for which no records exist must necessarily be addressed on a reactive basis. Certification of underground miners by the Ministry is not considered to be an effective safety and health measure. The government-industry-labour committee reviewing the regulations is recommending that certification be dropped in favour of site-specific training.

Audit Finding	Ministry Comment
	The Branch's approvals and inspection activities are designed to anticipate and minimize the occurrence of hazardous situations. All serious accidents and dangerous occurrences are required to be reported immediately. These are investigated according to their seriousness, if not immediately, then on a monthly basis; reports are circulated throughout the industry to draw attention to hazardous situations.
Acid mine drainage is seen as an increasingly serious problem which will take a major effort and significant expenditures to resolve. Branch staff are members of provincial and national committees studying this problem. As well, the Ministry is working closely with the Ministry of Environment and Parks to address the known cases.	Agreed. The Branch is dealing with known cases of acid mine drainage wherever there is a potential for adverse environmental impacts. The Branch is active in improving monitoring techniques and predicting and preventing acid mine drainage. British Columbia is a world leader in this area.
The *Mines Act* and related regulations address most significant mine safety and occupational health concerns. However, they do not always spell out the standards that must be met to ensure a safe mine-site. Furthermore, they neither define what constitutes an inspection nor provide an effective means of enforcement. Consequently, mine owners and managers do not always know the standards by which they will be judged. Additionally, and perhaps more importantly, they are unable to determine for themselves whether they are operating a mine that conforms in all respects with Provincial regulations. Another consequence is that inspectors sometimes make inconsistent rulings and have problems enforcing the vaguely worded regulations.	As stated earlier and as acknowledged in the report, the Branch is undertaking a legislative review to address these deficiences.

Audit Finding	Ministry Comment
Other government Ministries have jurisdiction in certain areas that are similar to those of the Ministry of Energy, Mines and Petroleum Resources. The *Environment Management Act*, the *Waste Management Act*, and the *Park Act* all contain provisions which overlap those of the *Mines Act*. These conflicts in jurisdiction should be resolved by revising the statutes or by signing protocol agreements with the ministries responsible.	Agreed. Numerous protocols have been instituted over the past three years in other areas and the Branch has identified the establishment of such protocols as a priority in its Business Plan.
The information in the Exhibit shows that, although the Branch has defined inspection and accident investigation as one of its key priorities, only about 21% of resources are being applied to these areas. Management wants to increase the time spent on priority activities.	The Branch plans on increasing the resources devoted to inspections. However, the Ministry assigns a greater priority to other activities intended to reduce the need for inspections or to increase the efficiency and effectiveness of current inspection activities.
Management has done a thorough job of translating the Branch's mission statement into specific objectives and plans. However, results-oriented performance measures are lacking, both for the Branch as a whole and for individual staff members.	As stated earlier, the Ministry Business Plan will address this deficiency.
The current organizational structure is not efficient.	Agreed. The Branch is currently implementing a revised organization structure to address the identified deficiencies.
The Branch has inadequate measures of success and its reports to the Legislature, the public, and industry are often ineffective or out-of-date when published.	Agreed. Implementation of the Ministry Business Plan will result in more timely and effective reports on Branch operations.
The Legislature should expect the Branch to develop and seek approval for a comprehensive plan to resolve its major problems.	Agreed. The Ministry Business Plan sets out Branch priorities and objectives and establishes mechanisms for ensuring that the Branch focusses on the efficient attainment of results.

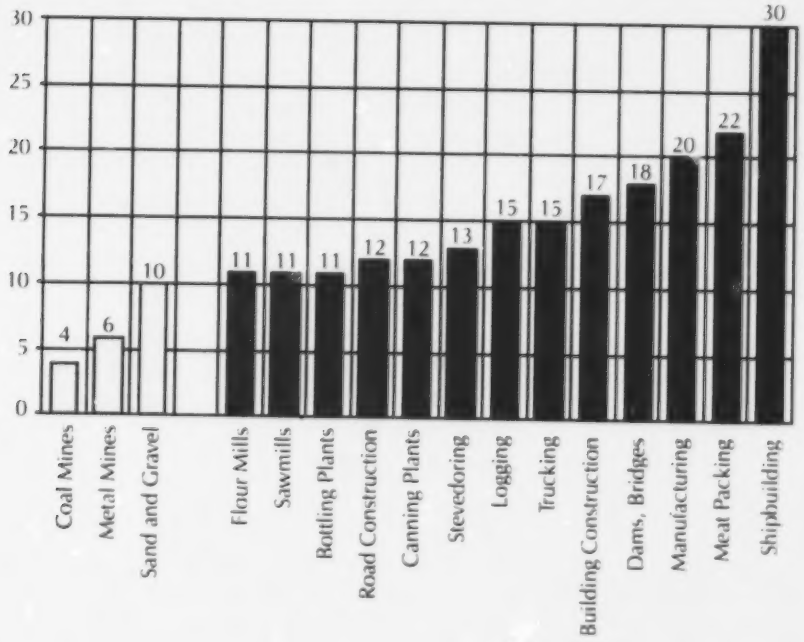
Appendix for Ministry Response

- Chart 1 Wage Loss Claims per 100 Workers: Heavy Industries in British Columbia
- Table 1 Mining Industry Fatality Rates: British Columbia and Other Provinces
- Chart 2 Accident Frequency Rate in British Columbia Mining Industry
- Chart 3 Accident Frequency Rates: Mineral Exploration
- Table 2 Operations of Workers' Compensation Board and Energy, Mines and Petroleum Resources Engineering and Inspection Branch
- Table 3 Engineering and Inspection Branch: Annual Inspection Activity

Chart 1

WAGE LOSS CLAIMS PER 100 WORKERS:
HEAVY INDUSTRIES IN BRITISH COLUMBIA

1982–1986 Averages



Inspected by Ministry of Energy, Mines and Petroleum Resources

Inspected by Workers' Compensation Board

Note: Sand and Gravel — 25% inspected by Ministry of Energy, Mines and Petroleum Resources, balance by Workers' Compensation Board.

Table 1

MINING INDUSTRY FATALITY RATES: BRITISH COLUMBIA AND OTHER PROVINCES

(Fatalities per Hundred Employees)

Newfoundland	N/A
New Brunswick	N/A
Nova Scotia	.035
Quebec	.037
Ontario	.044
Manitoba	.025
Saskatchewan	N/A
Alberta	N/A
British Columbia	.016
Yukon Territory/Northwest Territories	.011

Sources: Telephone contact with Chief Inspectors of Mines.
Employment figures from Annual Census of Mines.

Chart 2

ACCIDENT FREQUENCY RATE IN BRITISH COLUMBIA MINING INDUSTRY

Per 200,000 Man-hours

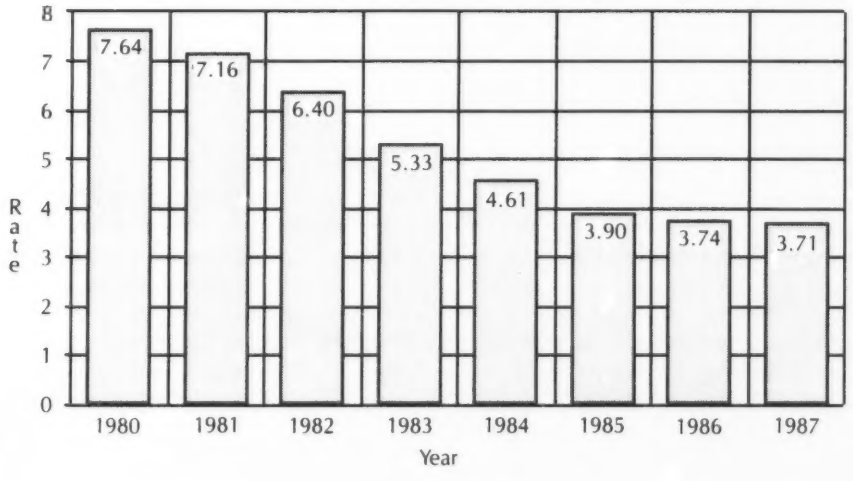


Chart 3

ACCIDENT FREQUENCY RATES: MINERAL EXPLORATION

Per 200,000 Man-hours

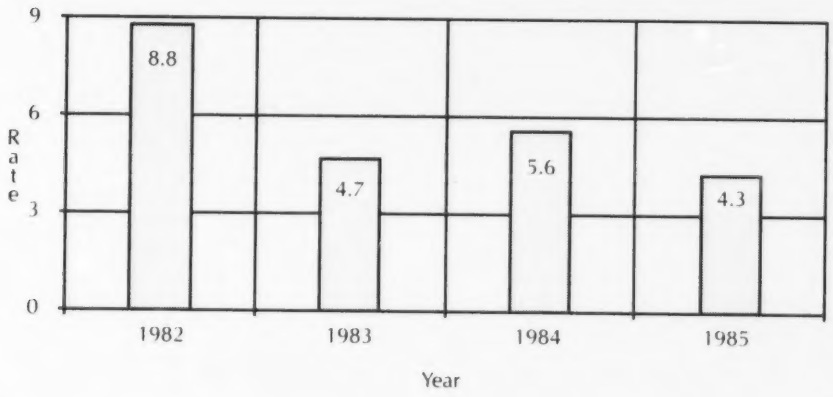


Table 2

OPERATIONS OF WORKERS' COMPENSATION BOARD AND ENERGY, MINES AND PETROLEUM RESOURCES ENGINEERING AND INSPECTION BRANCH

	WCB	EMPR
Staff	255	60
Registered Employers	90,000	N/A
Work Sites	190,000	3500 (app.)
Workers	1.5 M (app.)	25,000 (app.)
Ratios of Staff		
* per 1000 worksites	1.3	18
* per 1000 workers	0.2	2.4

Table 3

ENGINEERING AND INSPECTION BRANCH ANNUAL INSPECTION ACTIVITY

					TARGET	ACTUAL
	1980/81	1982/83	1985/86	1986/87	1987/88	1987/88
Number of Inspections	1651	1830	2020	2160	2400	2389
Accident Frequency	7.64	6.40	3.90	3.74	n/a	3.71

Issues Relating to and Arising From the Coquihalla Highway Project and Inquiry

Issues Relating to and Arising From the Coquihalla Highway Project and Inquiry

Introduction

2.558 On 31 July 1987, the Government appointed Mr. Douglas L. MacKay as a commissioner under the *Inquiry Act* to examine and to report on a number of issues relating to the estimated and actual costs of the Coquihalla highway and other highways constructed in our Province in recent years.

2.559 Although neither the Acting Auditor General nor staff of the Office testified before the Commission or were involved with the Commission in any official capacity, we kept abreast of the Commission's examinations through attendance at certain hearings and by reading transcripts of the others. Also, the Acting Auditor General and senior staff of the Office met informally with the Commission's accountant on several occasions during the period of the Commission's investigation and hearings. From these activities we were satisfied that the Commissioner had at his disposal all material facts and information, relevant to his investigation, that were known to us. Until he made his report, we did not know what interpretation the Commissioner would put on those facts, or his assessment of them.

2.560 In December of last year, Mr. MacKay concluded his examinations. His Report of the Commissioner Inquiry into the Coquihalla and Related Highway Projects was submitted on December 21st. We have studied the Commissioner's report with great interest, and are in general agreement with most of the conclusions and all of the recommendations contained therein.

2.561 Much of the Commissioner's report centered around:

- whether legislators and the public were fairly and fully informed as to the costs of the Coquihalla highway;
- whether proper financial management and control was exercised over the Coquihalla project; and
- whether the cost estimates for the highway were properly formulated and provided an adequate basis for suitable monitoring and control.

2.562 The Commissioner included in his report, recommendations to improve each of these three areas. Although the Commissioner made his recommendations in seven parts, several could be grouped under the broader heading of financial and management controls.

2.563 Many of the issues addressed by the Commissioner during the Inquiry are similar to those which the *Auditor General Act* authorizes us to review. As described in the

following sections, the findings of our past audit work in the areas reviewed by the Inquiry are consistent with those of the Commissioner.

Informing the Legislature and Public as to Costs

2.564 In 1985 we reviewed the annual reports of ministries across government, including that of the Ministry of Transportation and Highways. Our audit was conducted to determine whether legislators and the public were receiving the information they required to judge the performance of the Ministry the information needed to hold the Ministry accountable. We concluded they were not. This finding is consistent with that of the Commissioner who recommended that capital projects be reported completely and on a project basis.

2.565 Ministry annual reports should form an important link in the accountability process. The Legislative Assembly establishes public policy through legislation which determines the way in which money will be raised and the purposes for which it will be spent. After the Legislature has established its policy, it delegates to the Government the responsibility, funds and powers to carry out the policy. The Legislature has no role in administration. However, it is responsible to see that government administration is properly discharged.

2.566 To meet this responsibility, Members of the Legislative Assembly require information as to government administration. In turn, the Government, which has received delegated authority, has an obligation to provide the Legislature with sufficient reliable information to allow legislators to judge the performance of ministries. Ministry annual reports, together with the Public Accounts, are intended to provide this information. Annual reports should describe the ministries' purposes, inform the Legislature of the ministries' activities and the money spent on them, and include information on the results of their activities. They should also provide information from which legislators and the public can determine whether the resources delegated to the Government have been well managed and whether value has been received for money spent.

2.567 The 1985 Report of the Auditor General warned legislators that the ministry annual reports they were receiving did not provide adequate accountability information and that, as a result, legislators did not have the information necessary to make informed judgements and to fulfil their obligations.

2.568 In addition to the summarized comments and conclusions offered in our Annual Report, we also issued a detailed report to each ministry, including the Ministry of Transportation and Highways. The detailed report to the Ministry included an in-depth analysis and evaluation of its annual report. It concluded that the accountability information being provided by the Ministry was deficient and needed to be improved in several areas. It also included suggestions for improvement.

Exercising Financial Management and Control

2.569 In addition to our 1985 audit of accountability information, we also conducted, in 1981, a financial management and control study in the Ministry of Transportation and Highways. Similar audits were performed in seven other ministries during 1980 and 1981. We undertook our audit so that we could inform legislators as to the adequacy of the Government's financial management and controls. Like the Commissioner, we found several significant deficiencies.

2.570 In each of our Annual Reports between 1978 and 1981 we emphasized the need to strengthen and improve the financial control systems throughout government. Our audit work in the initial years revealed control weaknesses in the systems used to process and to account for financial transactions. However, as we pointed out when we introduced our financial management and control audits, even if internal accounting and processing controls are provided for in systems and are reliably adhered to, satisfactory financial control does not necessarily result. This is because proper financial management extends beyond day-to-day controls. Planning, budgeting and reporting systems are needed to achieve adequate control. Accordingly, we initiated broadly-based audits designed to allow us to inform legislators and the public whether the Government was managing and controlling its financial affairs properly.

2.571 Our audits revealed a recurring pattern of deficiencies in financial management and control. These were summarized in the 1981 Annual Report of the Auditor General where we warned legislators that, among other things, financial staff were not involved in a meaningful way in the major financial decisions of ministries, and that ministries' planning processes did not permit them to reliably forecast their costs or funding requirements.

2.572 Our detailed report to the Ministry of Transportation and Highways warned that the total costs of projects were not identified during planning, and that any estimates that were made were not based on detailed designs and surveys. As well, we found there was no real planning process. For example, needs were not identified and ranked by priority, individual projects were identified but not well defined or costed, and the future cost implications of new highway construction were not formally considered when decisions were taken to construct the highways.

2.573 Although our work was undertaken some time ago, our findings were consistent with the Commissioner's. He recommended that the Ministry develop a systematic capital plan with greater detail and more accuracy than currently exist. He also called for capital plans to be defined as to the overall functional scope necessary to accomplish their intended purpose, and for the approval process for major capital projects to require a statement of functional scope, a total project estimate of the most probable final cost, a project schedule with annual budget requirements, and evidence of proper planning.

Estimating Costs

2.574 The estimating of costs was the third area focused on by the Inquiry.

2.575 In his report, the Commissioner details the many significant deficiencies he found in the cost estimating process. During his examinations, the Commissioner compared the estimated and actual costs of the Coquihalla highway, determined the reasons and justification for the differences between them, and investigated the procedures for costing highway projects. He concluded that, "Overall, the difference between estimates and costs is due to inadequate estimates." He went on to state that, "The Commission can only conclude that in each case the (cost) estimates were misleading, haphazard and based on no common foundation or systematically recorded data."

2.576 Although the Commission examined the cost estimating process in much greater depth than did we in our aforementioned study of financial management and control, we consider the findings of these studies to be consistent.

Future Audit Work

2.577 Some time ago we identified the Government's Estimates as an area that warranted the attention of this Office. As well, in respect of the Ministry of Transportation and Highways, we had scheduled for 1990 a comprehensive audit of the operations of that Ministry.

2.578 As a result of the Commissioner's findings, we have re-evaluated and revised our plan for comprehensive and special audit projects over the next 18 months.

2.579 In his report, the Commissioner stated that, "In regard to financial matters, based on the facts, the Commission observes that in the matter of the Coquihalla Highway, the legislature lost effective control of the public purse."

2.580 In view of the gravity of the Commissioner's concern and the disquiet this undoubtedly causes legislators and the public, we have decided to proceed in 1988 with a review of all matters, including the Estimates process, that impact upon effective legislative control of the public purse. Issues such as the use of special warrants and other matters emanating from provisions of the *Financial Administration Act* will be considered. We will also explore what the Office might do to address the need perceived by some for major project accounting, reporting and auditing. If major projects were properly segregated and described in the Estimates, it might allow us to provide separate audit opinions on such projects, if that is considered desirable by the Legislature. We believe our study of matters related to control of the public purse by the Legislature is particularly important as the Estimates are the foundation for proper accountability.

2.581 In addition, as a result of the Commissioner's findings, we are also reviewing the timing of our comprehensive audit in the Ministry of Transportation and Highways.

2.582 As the Commissioner appears to have reviewed past events thoroughly and has reported on them publicly, we do not intend to conduct additional audit work in respect of such events.

2.583 However, we believe that the Office can and should play a role in preventing the problems of the past from recurring. We have held discussions with senior Ministry officials concerning their plans for remedying the problems that have been identified. We are satisfied that management appreciates the need for change and has the will to improve matters, and that the general thrust of the changes they are proposing is appropriate. However, these changes have not yet been fully formulated nor implemented and, therefore, an audit at this time would be of little practical benefit. We will continue to monitor the Ministry's progress and will undertake our audit at the earliest appropriate time. Considering the Ministry's plans, this should be during 1989.

Opinion on the Government's 1986 Financial Statements

2.584 Having stated that we agree with most of the conclusions and all of the recommendations in the Commissioner's report, there is one particular matter commented upon by the Commissioner with which our Office did not agree.

2.585 The Inquiry report stated that the transfer of highway construction costs from Vote 74 to Vote 69 "appeared to be contrary to the intent of the *Financial Administration Act* section 20(2)." In the context of this statement, the Commissioner's report advised that "the Auditor General's Report did not reveal the transfer of costs from Vote 74 to Vote 69." Thus the Inquiry report inferred that the Auditor General's unqualified audit opinion on the Government's 1986 financial statements was deficient.

2.586 Upon publication of the Inquiry report, it was necessary for us to determine how best to respond to the inferred criticism of our Office contained in the Inquiry report without denigrating the very worthwhile findings and recommendations contained in the report. We decided to withhold our comment on the propriety or appropriateness of the cost transfer until the publication of our next Annual Report, which was scheduled for March 1988.

2.587 However, in late February, the Speaker of the Legislative Assembly made an important decision which hinged substantially on the contents of a letter from the Acting Auditor General to a member of the Legislative Assembly.

2.588 In that letter dated 22 January 1988, the Acting Auditor General confirmed that this Office considered its audit opinion on the Government's 1986 financial statements, which was expressed without reservation, to be entirely appropriate.

2.589 The Speaker cited the unqualified nature of the 1986 audit opinion of the Auditor General and its affirmation in 1988 by the Acting Auditor General, in his determination that several members of the Legislative Assembly had not misled the House regarding costs incurred in respect of the Coquihalla highway project.

2.590 In view of these developments, we determined that it was a matter of primary importance and urgency that a detailed explanation in respect of our 1986 audit opinion be provided to the Legislature and not be deferred until our Annual Report was issued. We therefore submitted a Special Report to the Legislative Assembly on 7 March 1988 under section 11 of the *Auditor General Act*.

2.591 The question raised by the Commissioner's report was whether the Government's financial statements contained in the 1985-86 Public Accounts were misleading because highway construction costs, that were costs of the Coquihalla highway, were transferred to an inappropriate vote.

2.592 For the 1986 fiscal year, the Legislature approved two separate and distinct sources of funds for work on highways. This was somewhat unusual as in most years all funding for highways work has been included in one appropriation or vote.

2.593 The first source of funds was Vote 69, titled Highway Operations Department, which approved spending of up to $478,803,665. By enacting a Supply Act which included this vote, the Legislative Assembly authorized the Government to spend money up to the limit stipulated in the vote for the purposes described in the vote. The vote generally provided for maintenance of existing roads, for improvements to existing roads, and for development and expansion of the highway system. This description is similar to that of the single highways operations vote of other years. This vote presumably provided funding for highways that was not included in any other, more specific vote. Vote 69 did not refer to the Coquihalla highway.

2.594 The second source of funding for highways work approved by the Legislature for the 1986 fiscal year was Vote 74. This vote, titled Economic Renewal Special Highway Capital Construction Projects, provided up to $456,055,000 for the purposes described in the vote. Generally, it provided funding for construction of the Coquihalla highway and related projects, and for the Fraser River Crossing at Annacis and related projects. The full Vote description reads as follows:

> "This vote provides for the additional development and expansion of the provincial highway system in accordance with the Economic Renewal Program objectives of the government and includes:
>
> (a) Coquihalla Highway Construction — This sub-vote provides for the construction of the Coquihalla Highway and related projects. This includes planning, engineering, design, survey, construction, reconstruction, paving and right-of-way acquisition and property, equipment and machinery purchases.

(b) Fraser River Crossing (Annacis) Construction — This sub-vote provides for the construction of the Fraser River Crossing at Annacis and related projects. This includes planning, engineering, design, survey, construction, reconstruction, paving and right-of-way acquisition and property, equipment and machinery purchases."

2.595 Of particular significance is the phrase, ". . . and related projects" in the vote description attached to the Coquihalla Highway project. We believe the interpretation of this phrase is critical to the resulting accounting treatment, and to one's view as to whether or not costs of the Coquihalla highway were transferred without proper authority to an inappropriate vote. It is therefore central to whether the financial statements of the Government were presented fairly or whether the House was misled by them.

2.596 As the Legislature's auditor, the Auditor General has a responsibility to determine that expenditures are charged to votes in accordance with the intentions and direction of the Legislative Assembly.

2.597 When performing our audits, we first determine that an expenditure fits the vote description that has been approved by the Legislature. We verify that the expenditure is made for the purpose that is within the meaning of the vote description that the vote description permits an expenditure for that purpose. If the expenditure fits within the vote description, we then determine whether the expenditure is also in accordance with any other, more specific direction that the Legislature has given, if such direction exists.

2.598 We were aware that the Ministry had originally charged certain highway expenditures to Vote 74 and then reclassified them to Vote 69. However, this transfer was not of particular significance to us because the reclassification of accounting entries is not uncommon in the course of a fiscal year. What we considered important was that the final allocation of highway construction costs, the allocation in the Government's financial statements, be determined as being the proper allocation — the allocation that was in accordance with the wishes and intentions of the Legislature when it passed the votes. The fact that these costs were reclassified could have two interpretations: either the original classification was faulty and was being made more appropriate, or the costs were being concealed. The original cost allocation, the one that was later changed, had been made by the Government. Accordingly the Government had the authority to change it, provided that the final result was within the meaning of the vote description and in keeping with the intentions of the Legislature.

2.599 When we conducted our audit work, we first determined that the allocation of costs used by the Government to account for highway costs and prepare its financial statements was permitted within the meaning of the vote descriptions. We found that it was. This was to be expected since the vote descriptions provided little guidance as to which projects should be treated as "related" to the Coquihalla

highway and, therefore, which costs should be charged to the Coquihalla vote, Vote 74, and which to the regular highways vote, Vote 69. Because the vote descriptions were extremely vague, they accommodated a broad range of interpretations.

2.600 The allocation used by the Government for accounting purposes and for preparation of the financial statements was therefore acceptable unless found to be at variance with other, more specific direction from the Legislature.

2.601 Legislative debates on the Estimates provided no further guidance as to which expenditures should be charged to which vote, other than that contained in the vote descriptions. No supplementary document was reviewed or approved by the Legislature at the time the Estimates were passed to provide a clearer indication of the Legislature's intentions. There was no scope put on the Coquihalla project that indicated which work and related costs were to be charged to Vote 74 and which to Vote 69.

2.602 What was obviously clear was that all direct costs of the new Coquihalla highway should be charged to Vote 74. Also, it seemed reasonable that the costs of other work that was along the new Coquihalla highway corridor, and thereby directly related to the new highway, such as the costs of underpasses and overpasses required to traverse existing roads, and of access and exit ramps required to enter and leave the highway, should also be charged to Vote 74. Where any other work should be charged was not at all clear.

2.603 The only other evidence we found, that seemed to indicate the intentions of the Legislature, was a list of highway construction projects that was tabled in the House at the conclusion of the debate on the special warrant for highway construction. This list showed that highway construction projects that were not along the Coquihalla highway corridor were being charged to Vote 69. The contents of the list did not, to the best of our knowledge, give rise to discussion in the House in the days that followed. Accordingly, although we did not consider this list as conclusive evidence of legislative intent, it seemed reasonable for us to accept the information it contained as evidence that the Government's accounting treatment was known to legislators, and was not controversial.

2.604 We made a detailed review of the highway construction projects transferred from Vote 74, ensuring that they were all projects off the Coquihalla highway corridor. We also ensured that costs relating to all work along the Coquihalla highway corridor were charged to Vote 74. We found that the Ministry had consistently followed this allocation of costs.

2.605 Some question remained as to the treatment of the costs of work done at the ends of the Coquihalla where the new highway joined already existing roads. The costs of this work were put into the vote which best described the majority of the work. The costs of the work at the southern end were charged to Vote 69. The costs of the

northern interchange were placed in Vote 74. We reviewed each of these contracts and satisfied ourselves that the majority of the work done on these contracts was indeed done on the section of highway covered by the vote to which it was charged. A more precise allocation of costs might have been achieved by splitting the work into the component on the new highway and that on the existing road. However, we do not believe that the failure to account more precisely has resulted in a significant distortion of the costs.

2.606 In the knowledge that the Government was within its authority to account for highway construction costs as it did, and in the belief that this accounting treatment was not at variance with the intentions of the Legislature, we expressed our opinion on the 1986 financial statements of the Government without reservation. After considering the matters raised during the Commission of Inquiry and the submission to the House by a member of the Legislative Assembly, we believe that such opinion remains valid.

Looking Ahead

2.607 The findings of the Commissioner Inquiry, the debate that has taken place in the House, and the attendant media coverage have all raised questions about the probity of the Government's handling of the financing of the Coquihalla highway and its accounting for the highway's costs. These questions emphasize the need for a review of how the Legislature controls the public purse: how it establishes a basis for control, and how it exacts an accounting after the funds provided to the Government have been spent. Our 1985 audit of ministry annual reports assessed one of the more important accountability documents. In the coming year we will undertake an audit that examines the bases established by the Legislature to control Government spending.

2.608 We will also continue to monitor the progress of the Ministry of Transportation and Highways as it effects changes in its administration, and will conduct an audit of its revised management practices at the earliest appropriate time.

Audits of Public Bodies

Public Bodies

3.1 The *Auditor General Act* provides for the Auditor General to be appointed auditor of any Crown corporation or public body. Listed below are the public bodies for which the Auditor General was the appointed auditor at 31 March 1987. Their combined assets and expenditures amounted to approximately $15.8 billion and $3.7 billion respectively. Their audited financial statement are included in Section F of the Public Accounts.

British Columbia Assessment Authority
British Columbia Educational Institutions Capital Financing Authority
British Columbia Health Care Research Foundation
British Columbia Heritage Trust
British Columbia Housing and Employment Development Financing Authority
British Columbia Hydro and Power Authority Pension Fund
British Columbia Institute of Technology
British Columbia Place Ltd.
British Columbia Power Commission Superannuation Fund
BC Rail Ltd. Pension Fund
British Columbia Regional Hospital Districts Financing Authority
British Columbia School Districts Capital Financing Authority
College Pension Fund
Creston Valley Wildlife Management Authority Trust Fund
Expo 86 Corporation
Health Facilities Association of British Columbia
Knowledge Network of the West Communications Authority
Legal Services Society
Medical Services Commission of British Columbia
Members of the Legislative Assembly Superannuation Account
Municipal Superannuation Fund
Province of British Columbia Pooled Investment Portfolio, Fund ST1
Province of British Columbia Pooled Investment Portfolio, Fund ST2
Provincial Capital Commission
Provincial Rental Housing Corporation
Public Service Superannuation Fund
Simon Fraser University
Teachers' Pensions Fund
University of British Columbia
University of Victoria
Workers' Compensation Board of British Columbia
Workers' Compensation Board Superannuation Fund

3.2 The financial statements of the Liquor Distribution Branch also appear in Section F of the Public Accounts. Since we examine the accounts of this Branch as part of our overall audit of the Government's accounts, no separate audit opinion is given on these statements.

Audits of Public Bodies

3.3 It is the responsibility of management of a public body to determine the content and format of its financial statements and to select, from policies considered acceptable, accounting policies appropriate to its activities. As auditor of a public body I am required to express an opinion as to whether its financial statements are presented fairly in accordance with an appropriate basis of accounting. The Auditor General's opinion on the annual financial statements of each of the 32 public bodies audited for 1987 was expressed without reservation.

3.4 In the course of our audit we review, as appropriate, systems of financial control, and report to management instances where financial controls could be improved or where significant control procedures were not followed. We noted no control weaknesses significant enough for inclusion in this Report.

3.5 One further, important aspect of our work is to check that public bodies are complying with their enabling and other legislation as well as relevant government directives. To this end we design our audit work to address these issues. In our audits this year we noted no matters concerning these issues which should be brought to the attention of the Legislative Assembly.

Reliance on Other Auditors

3.6 In conducting our audit of the Government's Consolidated Financial Statements we rely on the work of auditors of a number of public bodies for which we are not the appointed auditor but which are included in the Consolidated Financial Statements. There were 21 such public bodies at 31 March 1987. Their combined assets and expenditures amounted to $14 billion and $13.4 billion respectively. We appreciate the assistance these auditors provided to us in carrying out our work.

3.7 Appendix III lists the public bodies of which the Auditor General was not the appointed auditor and whose financial statements are included in Section F of the Public Accounts.

Public Body Accountability

3.8 Our last Annual Report pointed out that public bodies have become significant instruments of government policy and that their collective financial impact, by some measures, exceeds that of the Government itself. We were concerned that the Members of the Legislative Assembly may not be receiving timely accountability information regarding public bodies, and urged the early proclamation of the *Financial Information Act* to partly remedy this situation. We also noted that, although changes in 1986 to the *Financial Administration Act* made the final choice

of auditor for many public bodies the responsibility of the Minister of Finance and Corporate Relations, the guidelines covering their selection did not establish any requirements for improved accountability information to be provided to the Legislative Assembly.

3.9 We are pleased to see that the *Financial Information Act* has now been proclaimed.

3.10 However, this does not fully address our concern about public body accountability and audit issues. As stated previously in this Report, the Acting Auditor General raised the subject with the Public Accounts Committee in July 1987. He asked the Committee to endorse his further study of the matter, and sought access to the Chairman and Deputy Chairman to elicit their views. After a brief debate by the Committee, the matter was tabled for discussion at a later date.

3.11 Concerns about public body accountability were also raised as early as 1981 by the Task Force on the *Financial Administration Act*. One of the key objectives of the Task Force was, as stated in the Discussion Paper on the Act, "...to establish a consistent regime of financial control for public bodies...". To this end the Discussion Paper included draft legislation.

3.12 When the Task Force made its report in February 1981 it recommended that the part of the proposed Act dealing with public bodies not be included in the *Financial Administration Act*, as the issues involved were too important and complex to be addressed as a minor part of a major act which was mainly concerned about the financial activities of the Government itself.

3.13 The Task Force went on to recommend that the Government continue to review the public body issue and to develop alternatives to it proposals. It stated in its recommendations that, "The Task Force feels strongly that the financial activities of public bodies are a legitimate and serious concern of the government and that measures should be taken to improve the financial accountability and control, systems which apply to them."

3.14 The Task Force further suggested that analysis be undertaken on all aspects of the public body issue, including:

- the definition of public bodies, based on an analysis of what makes an organization public;
- the identification of all such organizations in the Province;
- the classification of public bodies into groupings which reflect the significant variations in status, function, source of financing, size, and relationship to the Government;
- the nature of accountability and control provisions appropriate for each grouping, and the provisions presently in effect;

- various alternative mechanisms for establishing such provisions including contractual relationships between the Government and funded gencies, improved government budgeting procedures, memoranda of understanding between government corporations and responsible ministers, and standard financial clauses in public body statutes; and
- the relationship between financial accountability and control, and overall policy direction.

3.15 The Task Force concluded that "...by continuing the dialogue on accountability and control for public bodies, British Columbia can become a leader in dealing with a significant issue which is relevant to public administration in all jurisdictions."

3.16 Since the Task Force reported, steps have been taken to improve control of public bodies through implementation of relevant sections of the *Financial Administration Act* and proclamation of the *Financial Information Act*. As a result, improvement has occurred in both the Government's control over public bodies and the information provided to the Legislative Assembly about public body financial activities. However, as we noted in last year's Report, legislators may need more than financial information to properly evaluate the performance of public bodies.

3.17 In this regard, in the last few years the governments of Canada and other jurisdictions have addressed, or are addressing, the issue of public body accountability. The Government of Canada, in particular, has put in place a legislative framework which addresses all aspects of accountability including issues of effectiveness, economy and efficiency. One important facet of this framework is audit — both the type of audits required to be undertaken and the reporting responsibility of the auditor, including the means of reporting any of his concerns to Parliament.

3.18 We believe that considerable benefit would be derived from a thorough examination of the accountability regime of public bodies. Accordingly, we urge the Government to conduct a comprehensive study as contemplated by the Task Force, and recommend that such study encompass all aspects of accountability required to meet the needs of the Legislative Assembly as well as the Government.

3.19 Our Office is also studying this issue, with particular emphasis on financial reporting and audit. We would be pleased to contribute to an overall review of this important subject.

General Matters

General Matters

Auditor General Appointed

4.1 Pursuant to the provisions of the *Auditor General Act*, a special committee of the Legislative Assembly was formed in April 1987 for the purpose of recommending to the Assembly a person to be appointed Auditor General.

4.2 As a result of this selection process, Mr. George L. Morfitt, F.C.A. was appointed Auditor General effective 1 February 1988.

4.3 Mr. Morfitt brings to the Office years of experience in the business and professional community. In addition, he has served as president of the Institute of Chartered Accountants of British Columbia, and has headed or served on numerous committees of that Institute and the Canadian Institute of Chartered Accountants. He has also been active in public service work through involvement in various capacities with educational, governmental, charitable and athletic organizations.

Organization and Administration of the Audit Office

Staff Resources

4.4 In August 1985, following the Public Accounts Committee's unanimous endorsement of the Auditor General's representations to that Committee, the Government increased the authorized staffing level of the Office of the Auditor General by 10, to a complement of 92 positions. This new authorized level was confirmed in the Estimates for the 1986/87 fiscal period.

4.5 In its Estimates for the current 1987/88 fiscal period, the Government arbitrarily reduced the authorized complement of the Office by 5 positions. It was later explained that this budget cut was made because the Office no longer had audit responsibilities for Expo 86 Corporation, and the Office had never fully staffed up to the authorized level of 92.

4.6 In subsequent discussions with the Chairman of Treasury Board, the Acting Auditor General explained that the audit of Expo 86 Corporation had been conducted over a period of several years without a specific increase in staff, employing personnel who would otherwise have been engaged on audit work within the ministries of government. He also stated that the shortfall in staff was not occasioned by the lack of important audit work to be done, but rather by various valid factors including the uncertainty caused by extended delays in the appointment of an Auditor General.

4.7 Nevertheless, no change was made to the 1987/88 staffing budget, nor has the Government restored the 5 positions in its 1988/89 Estimates.

4.8 At a meeting of the Public Accounts Committee in July 1987, the Acting Auditor General expressed his concern that the Government had reduced the authorized complement of the Auditor General's Office even though the establishment of 92 had been recommended by that Committee of the Legislative Assembly just two years previously. He recommended that some means be found to have decisions on the determination of resources for the Office made by a board or committee of the Legislature rather than by the Government. A motion to this effect was debated, and then tabled by the Committee. It is expected that discussion of this proposal will resume at a future sitting of the Public Accounts Committee.

Organization

4.9 Except for the appointment of the Auditor General effective 1 February 1988, the organization of the audit office remained virtually unchanged during the period covered by this report. The Deputy Auditor General served as Acting Auditor General for the period from 1 November 1986 to 31 January 1988. Reporting to him during this time were the three Executive Directors and five Directors who are directly responsible for all audit activities. These individuals collectively formed the Executive Committee, which is the senior policy-making body of the Office.

4.10 At 1 February 1988 the Office employed a staff of 84, and had commitments for the employment of another 4 staff. This total complement consisted of 50 professional accountants or persons with other formal qualifications related to the work of the Office, 30 student-level audit staff pursuing courses of studies leading to recognized accounting designations, and 8 administrative staff.

Training and Related Professional Activities

4.11 Staff training is an ongoing activity essential to developing and maintaining the various skills required to carry out the mandate of the Office. Accounting and auditing concepts and techniques continue to change at an increasing pace, and it is essential that staff of the Office keep abreast of these developments if the Legislature is to be properly served.

4.12 Professionally qualified staff have attended a variety of in-house and external courses related to the technical and managerial requirements of their work, and have participated in the activities of organizations and associations whose objectives are closely related to the work of the Office.

4.13 The staff in student-level positions are all enrolled in courses leading to professional accounting designations in their respective institutes or associations. We are pleased to note that 6 staff members who received their training with the Office successfully completed their academic requirements during the year.

Canadian Conference of Legislative Auditors

4.14 The Canadian Conference of Legislative Auditors, an association of the legislative auditors of the senior governments of Canada, held its 15th annual meeting at Quebec City in July 1987. The Conference facilitates the sharing of information important to the legislative auditing community through its regular annual meetings, cooperative research activities, and the informal exchange of information by the various audit offices.

4.15 Senior officials of the Public Accounts Committees of Canada, the provinces and the territories also held meetings in Quebec City. A joint session of the two groups afforded a valuable opportunity for the exchange of views on a number of subjects of common interest.

Public Sector Accounting and Auditing Committee

4.16 The Public Sector Accounting and Auditing Committee was established by the Canadian Institute of Chartered Accountants to consider matters of public sector accounting and auditing theory and practice, and to render on its own authority such pronouncements as it considers in the best interest of the community as a whole. We have found the statements and recommendations made by the Committee to be of considerable value to the Office, and support the work of the Committee through the active involvement of several members of our staff.

Canadian Comprehensive Auditing Foundation

4.17 The Foundation is a national cooperative association established to further the development and application of value-for-money auditing concepts. It carries out research projects, devises and provides training programs, and serves as a focus for the sharing of information. This Office derives considerable benefit from the work of the Foundation, and actively supports its activities.

Public Accounts Committee

4.18 The Annual Report of the Auditor General, after being tabled in the Legislative Assembly, is referred to the Public Accounts Committee for its consideration. This committee of the Legislature, composed of a cross-section of members of the Assembly, traditionally bases a substantial portion of its deliberations on information contained in the Auditor General's Report.

4.19 The last Report of the Auditor General was tabled in the Legislative Assembly on 7 April 1987. Discussion on its contents by the Committee began on 26 May, and continued periodically until 10 December 1987. In all, the Report was dealt with at eight meetings of the Committee during the year.

4.20 The Committee issued a report on its activities which was tabled in the Legislative Assembly on 17 December 1987. That report dealt with a number of issues raised in the Auditor General's Report. This involvement of the Committee through its report to the Legislature is commendable in that it formalizes the Assembly's consideration of the work done by the Auditor General.

Other Activities

4.21 Staff members continued to be active in professional and community affairs during the year. Several served on committees of the Institute of Chartered Accountants of British Columbia, while others were involved with the Canadian Comprehensive Auditing Foundation and other organizations related to the various activities of the Office.

4.22 Many of our employees also serve the community by lecturing at colleges and universities, and through volunteer work with charitable organizations.

Advisory Council

4.23 Several senior members of the accounting profession assist the Auditor General when certain complex issues require examination. Those who served on the Auditor General's Advisory Council this past year are:

Michael J. Ashby, F.C.A.

Dennis F. Culver, F.C.A.

Denham J. Kelsey, F.C.A.

Ronald W. Park, F.C.A.

The contribution made by this Council to the work of the Office is valued and appreciated.

Appendices

Appendix I

Sections of the *Auditor General Act* Relevant to the Responsibilities of the Auditor General

Appointment, Salary, Term and Pension

2. (1) The Lieutenant Governor shall, on the recommendation of the Legislative Assembly, appoint as an officer of the Legislature, a person as Auditor General to exercise the powers and perform the duties assigned to him under this Act.

(2) The Legislative Assembly shall not recommend a person to be appointed as Auditor General unless a special committee of the Legislative Assembly has unanimously recommended to the Legislative Assembly that the person be appointed.

(3) The Auditor General shall be appointed for a term of 6 years and he may be reappointed in the manner provided in this section for further 6 year terms.

(4) The Auditor General shall be paid, out of the consolidated revenue fund, a salary in an amount equal to the salary paid to the chief judge of the Provincial Court of British Columbia.

(5) The Auditor General shall be reimbursed for reasonable travelling and out of pocket expenses necessarily incurred by him in discharging his duties.

(6) Subject to subsections (7) to (10), the *Pension (Public Service) Act* applies to the Auditor General.

(7) An Auditor General who retires, is retired or removed from office after at least 10 years' service shall be granted an annual pension payable on or after attaining age 60.

(8) Where an Auditor General who has served at least 5 years is removed from office by reason of a physical or mental disability, section 19 of the *Pension (Public Service) Act* applies and he is entitled to a superannuation allowance commencing on the first day of the month following his removal.

(9) Where an Auditor General who has served at least 5 years dies in office, section 20 of the *Pension (Public Service) Act* applies and the surviving spouse of the Auditor General is entitled to a superannuation allowance commencing on the first day of the month following the death.

(10) When calculating the amount of a superannuation allowance under subsections (7), (8), or (9),

(a) each year of service as Auditor General shall be counted as 1 1/2 years of pensionable service; and

(b) the number of years referred to in section 19 (1) (b) of the *Pension (Public Service) Act* shall be multiplied by 1.5.

(11) Before beginning to perform his duties, the Auditor General shall take an oath before the Clerk of the Legislative Assembly that he will faithfully and impartially exercise the powers and perform the duties of his office.

Resignation, Removal or Suspension

3. (1) The Auditor General may at any time resign his office by written notice to the Speaker of the Legislative Assembly or to the Clerk of the Legislative Assembly if there is no Speaker or if the Speaker is absent from the Province.

(2) On the recommendation of the Legislative Assembly, based on cause or incapacity, the Lieutenant Governor shall

(a) suspend the Auditor General, with or without salary; or

(b) remove the Auditor General from his office

in accordance with the recommendation.

(3) Where the Auditor General is suspended or removed from office or the office of Auditor General becomes vacant, the Lieutenant Governor shall, on the recommendation of the Legislative Assembly, appoint an acting Auditor General to hold office until the end of the period of suspension of the Auditor General or until an Auditor General is appointed under this act, as the case may be.

(4) When the Legislature is not sitting and is not scheduled to sit within the next 5 days, the Lieutenant Governor in Council may, with or without salary, suspend the Auditor General from his office for cause or incapacity but the suspension shall not continue in force after the expiry of 20 sitting days.

Acting Auditor General

4. (1) Where

(a) the Auditor General is suspended or removed or the office of Auditor General becomes vacant when the Legislature is sitting but no recommendation under this Act is made by the Legislative Assembly before the end of that session; or

(b) The Auditor General is suspended or the office of the Auditor General becomes vacant when the Legislature is not sitting,

the Lieutenant Governor in Council may appoint an acting Auditor General.

(2) The appointment of an acting Auditor General under this section terminates

(a) on the appointment of a new Auditor General under section 2;

(b) at the end of the period of suspension of the Auditor General; or

(c) immediately after the expiry of 20 sitting days after the day on which he was appointed

whichever the case may be and whichever occurs first.

Examination of Accounts

6. (1) The Auditor General shall examine in the manner he considers necessary the accounts and records of the government relating to the consolidated revenue fund and all public money, including trust and special funds under the management of the government, and to public property.

(2) Notwithstanding any other Act, the Auditor General

(a) shall be given access to the records of account and administration of any ministry; and

(b) may require and receive from any person in the public service, information, reports and explanations necessary for the performance of his duties.

Report on Financial Statements

7. (1) The Auditor General shall report annually to the Legislative Assembly on the financial statements of the government, including those required by section 8(2) of the *Financial Administration Act*, respecting the fiscal year then ended.

(2) The report shall form part of the public accounts and shall state

(a) whether he has received all of the information and explanations he has required; and

(b) whether in his opinion, the financial statements present fairly the financial position, results of operations and changes in financial position of the government in accordance with the stated accounting policies and as to whether they are on a basis consistent with that of the preceding year.

(3) Where the report of the Auditor General does not contain the unqualified opinion required under this section, the Auditor General shall state the reasons why.

Annual Report

8. (1) The Auditor General shall report annually to the Legislative Assembly on the work of his office and call attention to anything resulting from his examination that he considers should be brought to the attention of the Legislative Assembly including any case where he has observed that

(a) accounts have not been faithfully and properly kept or public money has not been fully accounted for;

(b) essential records have not been maintained;

(c) the rules, procedures or systems of internal control applied have been insufficient

(i) to safeguard and protect the assets of the Crown;

(ii) to secure an effective check on the assessment, collection and proper allocation of the revenue;

(iii) to ensure that expenditures have been made only as authorized; or

(iv) to ensure the accuracy and reliability of the accounting data; or

(d) public money has been expended for purposes other than for which it was appropriated by the Legislature.

(2) In the report the Auditor General may also include an assessment

(a) as to whether the financial statements of the government are prepared in accordance with the most appropriate basis of accounting for the purpose of fair presentation and disclosure; or

(b) as to whether any program being administered by a ministry is being administered economically and efficiently.

Trivial Matters

9. The Auditor General need not report to the Legislative Assembly on any matter he considers immaterial or insignificant.

Submission of Annual Report

10. (1) A report of the Auditor General to the Legislative Assembly shall be submitted by him through the Minister of Finance.

(2) On receipt of a report of the Auditor General, the Minister of Finance shall lay the report before the Legislative Assembly as soon as possible.

(3) If the Minister of Finance does not lay the report before the Legislative Assembly on the first sitting day following the receipt of the report by him, the Auditor General shall transmit the report to the Speaker and the Speaker shall lay the report before the Legislative Assembly.

(4) On being laid before the Legislative Assembly, the annual report of the Auditor General shall be referred to the Public Accounts Committee of the Legislative Assembly.

Special Reports

11. The Auditor General may at any time make a special report to the Legislative Assembly on a matter of primary importance or urgency that, in his opinion, should not be deferred until he makes his annual report.

Other Reports

12. The Auditor General may at any time make a report to the Minister of Finance, the Treasury Board, the Lieutenant Governor in Council, or any public officer on any matter that in the opinion of the Auditor General should be brought to his or their attention.

Special Assignments

13. The Auditor General may undertake special assignments at the request of the Lieutenant Governor in Council, but he is under no obligation to carry out any requested assignment if, in his opinion, it would interfere with his primary responsibilities.

Staff in Ministries

14. (1) The Auditor General may station in any ministry a person employed in his office to enable him to more effectively carry out his duties, and the ministry shall provide the necessary office accommodation for a person so stationed.

(2) The Auditor General shall require every person employed in his office who is to examine the accounts or the administration of a ministry pursuant to this Act to comply with any security requirements applicable to, and to take any oath of secrecy required to be taken by, persons employed in that ministry.

Inquiry Powers

15. The Auditor General may examine any person on oath on any matter pertaining to his responsibilities and for that examination the Auditor General has all the powers, protection and privileges of a commissioner under sections 12, 15 and 16 of the *Inquiry Act*.

Public Bodies

16. (1) Notwithstanding any other Act, where the Auditor General is not the auditor of a public body,

(a) the public body shall, on the request of the Auditor General, supply the Auditor General with a copy of all financial statements and reports relating to the public body;

(b) the auditor of the public body shall, on the request of the Auditor General, make available to the Auditor General, within a reasonable time, all working papers, reports and other documents in his possession relating to the public body; and

(c) the Auditor General may conduct examinations of the records and operations of the public body he considers necessary or advisable to carry out his duties under this act.

(2) Notwithstanding any other Act, the Auditor General

(a) shall be given access to the records of account and administration of any public body; and

(b) may require and receive from any officer or employee of a public body information reports and information necessary for the performance of his duties.

Eligibility As Auditor

17. Notwithstanding any other Act, the Auditor General is eligible to be appointed the auditor, or a joint auditor, of a Crown corporation, Crown agency or public body.

Transfer of Audit Duties

18. The Lieutenant Governor in Council may transfer to the Auditor General the duty imposed by any Act on the Comptroller General to conduct an audit.

Appendix II

Auditor General's Reports on Financial Statements Included in the Public Accounts Relative to:

- Combined Financial Statements
- Consolidated Financial Statements
- Trust Funds Financial Statements

Province of British Columbia

Office of the
Auditor General
Province of British Columbia

8 Bastion Square
Victoria
British Columbia
V8V 1X4

AUDITOR GENERAL'S REPORT

To the Legislative Assembly
of the Province of British Columbia
Parliament Buildings
Victoria, British Columbia

I have examined the combined balance sheet of the Government of the Province of British Columbia as at 31 March 1987, and the combined statements of revenue and expenditure and changes in cash and temporary investments for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances. I have received all the information and explanations I have required.

I report in accordance with section 7 of the *Auditor General Act*. In my opinion, these combined financial statements present fairly the financial position of the Government of the Province of British Columbia as at 31 March 1987 and the results of its operations and the changes in its financial position for the year then ended in accordance with the stated accounting policies as set out in Note 1 to these financial statements applied on a basis consistent with that of the preceding year.

Robert J. Hayward, C.A.
Acting Auditor General

Victoria, British Columbia
31 August 1987

Province of British Columbia

Office of the
Auditor General
Province of British Columbia

8 Bastion Square
Victoria
British Columbia
V8V 1X4

AUDITOR GENERAL'S REPORT

To the Legislative Assembly
of the Province of British Columbia
Parliament Buildings
Victoria, British Columbia

I have examined the consolidated balance sheet of the Government of the Province of British Columbia as at 31 March 1987, and the consolidated statements of revenue and expenditure and changes in cash and temporary investments for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances. I have received all the information and explanations I have required.

I report in accordance with section 7 of the *Auditor General Act*. In my opinion, these consolidated financial statements present fairly the financial position of the Government of the Province of British Columbia as at 31 March 1987 and the results of its operations and the changes in its financial position for the year then ended on a consolidated basis in accordance with the stated accounting policies as set out in Note 1 to these financial statements applied on a basis consistent with that of the preceding year.

Robert J. Hayward, C.A.
Acting Auditor General

Victoria, British Columbia
31 August 1987

Province of British Columbia

Office of the
Auditor General
Province of British Columbia

8 Bastion Square
Victoria
British Columbia
V8V 1X4

AUDITOR GENERAL'S REPORT

To the Legislative Assembly
of the Province of British Columbia
Parliament Buildings
Victoria, British Columbia

I have examined the statement of financial position of the Trust Funds of the Government of the Province of British Columbia as at 31 March 1987, and the statement of changes in trust balances for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances. I have received all the information and explanations I have required.

I report in accordance with section 7 of the *Auditor General Act*. In my opinion, these financial statements present fairly the financial position of the Trust Funds of the Government of the Province of British Columbia as at 31 March 1987 and the changes in trust balances for the year then ended in accordance with the stated accounting policies as set out in Note 1 to these financial statements applied on a basis consistent with that of the preceding year.

Robert J. Hayward, C.A.
Acting Auditor General

Victoria, British Columbia
31 August 1987

Appendix III

Public Bodies, of Which the Auditor General Was Not the Appointed Auditor, Whose Financial Statements Are Included in Section F of the Public Accounts

British Columbia Buildings Corporation
British Columbia Development Corporation
British Columbia Ferry Corporation
British Columbia Food Exhibitions Ltd.
British Columbia Housing Management Commission
British Columbia Hydro and Power Authority
British Columbia Lottery Corporation
B.C. Pavilion Corporation
British Columbia Petroleum Corporation
— Petroleum Corporation Fund
— Natural Gas Price Adjustment Fund
British Columbia Railway Company
British Columbia Steamship Company (1975) Ltd.
British Columbia Systems Corporation
British Columbia Transit
Discovery Foundation
Housing Corporation of British Columbia
Insurance Corporation of British Columbia
Pacific Coach Lines Limited
Science Council of British Columbia and Secretariat on Science, Research and Development
Universities Council